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PART I

FACTORS OF ECONOMIC PROGRESS

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PREFACE

G. HABERLER

The following is a resumé of a five-day conference from 28 August to 2 September 1953. Sixty scholars from 20 countries in each part of the globe were gathered in Santa Margherita, Italy, to discuss the problem of long-term economic growth. It was the fourth international round-table conference of economists, organized by the International Economic Association. During the same period the second council meeting of the IEA was held and council members were invited to participate in the round-table discussion.

It has previously been reported in this *Bulletin*[1] that after a lengthy exchange of views between economists of numerous countries, the IEA was founded under the auspices of Unesco at a conference held in Monaco in September 1950. It is organized as a federation of national associations and now has 24 associations as members. Its chief activity has consisted in organizing round table conferences, each on a particular subject with carefully prepared agenda. The bases of discussion are papers written by leading experts, circulated well in advance of the meeting and summarized at the conference by the authors themselves or by a rapporteur.

The first round table (Monaco, 1950) took International Economic Balance as its subject (see *International Social Science Bulletin*, Vol. II, No 4). The second was held at Talloires, France, in September 1951, on the subject of Monopoly Competition and their Regulation, and the papers and summary of discussions have just been published by Macmillan & Co. Ltd., London.

Immediately before the Monopoly Conference, a smaller conference on the methods of teaching economics in various countries was held in the same place. The papers of that conference will be published by Unesco.

The fourth round table, on the problem of the Business Cycle (short-term economic fluctuations), was held at Oxford, England, in September 1952, and the proceedings will be published shortly by Macmillan.

Last year's conference was the most ambitious so far. Economic growth is a very complex subject, which cannot be adequately judged and explained in purely economic terms. Historical perspective, philosophical insight, understanding of different cultures and civilizations as well as economic and sociological analysis are required to get a proper view of the conditions of economic growth and progress.

The Santa Margherita gathering was a meeting of economists; it was not an interdisciplinary conference. But it can be said that the economists gathered there were well aware of the meta-economic ramifications, presuppositions and implications of their subject. The chairman of the programme committee,

[1] See Vol. II, No 2.

Professor Dupriez, on whom fell the major task of preparing and organizing the round table, insisted from the beginning that the subject was not to be economic development in a narrow materialistic sense, but economic progress, with full regard given to non-economic factors.

This broad vision of the subject matter was a source of strength and weakness at the same time. In my opinion it was absolutely right to go beyond the narrow economic aspects of the subject, but there is no denying that the broad conception of the subject made mutual understanding more difficult than it would have been, had the discussion been held to a technical economic level.

Scholars coming from different countries, with different cultural and philosophical background, different scientific convictions and trained in different methods of research—theorists and statisticians, philosophically-minded speculative thinkers, and historians trained in the description and verification of facts—such a diverse group cannot be expected to reach immediate understanding, let alone a common view on the complex problems of economic growth.

It is not surprising, therefore, that there was a good deal of disagreement and even misunderstanding, but I am sure that the great majority of the participants agreed that it was extremely useful for all of them to have been exposed to other points of view and to be forced to defend, reconsider and clarify their own ideas.

It was interesting to observe that the various differences in outlook often took no account of national and cultural boundaries. This was illustrated when a prominent economist from a Western country advanced the theory that the criterion of economic progress applied by oriental peoples was fundamentally different from that accepted in the Western world. His theory was flatly contradicted by an Indian scholar who expressed the view (and gave reasons for it) that the basic wishes, needs and aspirations are the same in the East as in the West.

Most participants went away with the conviction that such international gatherings, in addition to the formal discussions themselves, offer an opportunity for informal exchanges of views and for establishing useful personal contacts, and are a very valuable, even indispensable, means of furthering international understanding, cross fertilization and mutual stimulation.

The officers of the IEA and members of the executive committee were able to gather valuable experiences and suggestions on methods of organizing such meetings.

It remains to express sincere thanks and appreciation on behalf of the executive committee and the council to all those who made the conference possible. Our special gratitude is due to Unesco which, through financial support, wise counsel and friendly encouragement—without in any way interfering with the wishes and desires of the association itself and its constituent members—has enabled the economists of the world to organize themselves in the International Economic Association and to hold these fruitful conferences.

INTRODUCTION

LÉON H. DUPRIEZ

The 1953 round-table conference of the International Economic Association was devoted to a discussion of the vast problem of economic progress. Held at Santa Margherita Ligure, Italy, the discussion was based on 19 papers prepared by specialists and took place at nine sessions between 28 August and 2 September. The attendance was considerable—60 participants—as the round table coincided with the council meeting of the association.

Meetings were held at the Villa Chierichetti, a beautiful seventeenth-century mansion on a hill overlooking Santa Margherita bay, graciously put at our disposal by Professor Volrico Travaglini, of Genoa University.

The topic under discussion was purposely defined as economic progress, from a strong desire not to limit the subject merely to economic growth. Pure expansion may certainly be subjected to economic analysis; but it is far from implying all that progress means. It was therefore thought that the aims of development should be taken into account, that is, the human aspects of progress rather than sheer expansion in terms of goods and services produced.

Clearly, an analysis of economic progress, so broadly defined, can be carried out in many different ways. Some thought was therefore devoted to issues which, though related to the main subject, were of a very different nature; the papers themselves dealt with widely diverse topics. The discussions accentuated this tendency, as the conference members had very varied experience of the subject under discussion.

The historical approach to economic progress was deemed important and was probably discussed more thoroughly than any other. Attention was concentrated on various aspects of historical development since the industrial revolution. Profound and original views were put forward on this subject.

The round table was also concerned with a theoretical approach to economic progress. The logical problem was how to construct a well-balanced theory of long-period development within the general framework of economics and to show how it could be related to modern short-period analysis. Although considerable attention was devoted, especially in the papers, to differences between economic reactions over the long and short period it would be hard to claim that the round table did more than bring a few issues to the fore. The time devoted to theoretical questions was short; moreover, there hardly seems, at present, any consensus of opinion on the need for, and the nature and implications of, a theory of secular development.

Thirdly, the discussion was dominated by the political problem of the under-developed countries. The programme had given a special place to this problem, it was in most peoples' minds and emerged in almost every context, probably more so than was opportune for the general theme of the conference. Attention

ranged over too many specific problems, many of which were more suitable for an international committee than for a discussion of principles.

This general survey is not the place to draw strict conclusions nor to develop an argument on any of the problems of economic progress; my sole object is to draw attention to certain trends in economic thinking which the papers and the discussion showed to be prevalent.

The most momentous question posed by economic progress is that of the relative importance of the various factors of production in secular development, whether as productive agents or as limiting factors for progress. On this point, great stress has been laid on the predominant part played by human beings; man is all-important, either as entrepreneur or as productive agent. In the higher stages of development his importance seems to be increasing.

The entrepreneur function has been given great consideration, and stress has been laid on the various historical and geographical conditions which have tended to encourage entrepreneurship, or to stifle it. In underdeveloped countries, the difficulty of promoting the formation of an adequate supply of entrepreneurs appears to be the most potent limiting factor on development; this problem is deeply intertwined with the social organization of all social groups which have not participated in the industrial revolution.

In this respect, the type of entrepreneur who exploits possibilities as they present themselves, within a limited time-horizon and mostly on a small scale—the entrepreneur described by J. B. Say—can produce only limited results. Society must produce Schumpeterian innovators, with a long time-horizon and capable of achieving substantial transformations, more often than not in a market where competition is monopolistic and heterogeneous.

It has been the privilege of the present generation in many of the more developed countries to witness how important education could become in the process of economic growth. After a century during which machine production seemed to require the help of many 'hands', our technique has developed to a point where 'hands' are turned away, whilst the growing need of society is for highly differentiated and trained abilities. This change has had many important consequences. Two of these deserve mention here: one is the fact that modern societies develop a need for services and for tertiary production, where skill is highly remunerated and few complementary factors exist; the other is the fact that, as industrial advance raises the quality of work, the worker's share in the product must increase. Both these influences enhance the relative importance of labour (in its widest sense).

The combination of these changes with a relatively rapid advance in productivity in the making of tools may lead to a reduction of the amount of capital needed per head (in money terms) at the social level. This is not inconsistent with developments putting more physically efficient tools at the disposal of man in the several branches of activity. The latter would help to explain the increasing mastery of man over nature, while the former would relate the rhythm of development to relatively decreasing needs for new investments. Long discussions on the 'capital income ratio' (the ratio of current capital needs to current income) establish a link between secular development and short-period analysis of business conditions.

Natural resources—that is land—should normally be given priority in a discussion of secular development. In fact, the conference did not study the conservation of natural resources for future generations; it was much more concerned with current possibilities of expansion in undeveloped countries.

In this respect, countries within the orbit of international trade have rarely experienced decreasing returns—rather the reverse. Land appears to have a decreasing importance in the economic process and, most certainly, in the imputation of the product. This is, of course, not the case in underdeveloped areas, especially in the East, where the organization of production is a function of the available land.

Although capital accumulation is of the very essence of the industrial revolution, the theory of capital apparently plays a less significant role in secular development than in contemporary business cycle analysis. This, at least, is the impression given by several contributions. Historically, there seems to be no reason to believe that capital has been obtained by abstinence, that is by actual abstinence from previous levels of consumption. Rather has expansion developed the means for its own perpetuation, out of its own accrued product, at least as soon as it really began. Theoretically, the availability of capital does not seem to have been the most potent factor limiting development, notwithstanding repeated, but short-lived, capital shortage in periods of tension. Where capable entrepreneurs and financial security exist, the rate of interest has declined in the long run.

This brings the emphasis back to the entrepreneur's function, which is really the most acute problem in underdeveloped areas. The primary need is obvious—to put the future of an area in the hands of farsighted, intelligent entrepreneurs. But the choice of the activities to be developed first, and of the techniques appropriate to particular circumstances, is much less obvious. This problem of choice was discussed from many aspects. How do the stages of development succeed each other? Is the succession identical both in a process of imitation and in the original expansion? Are there 'developmental blocks' and should progress be sought within these? Should indigenous techniques be transformed progressively or should the most modern tools be installed within special 'developmental blocks'? Should preference be given to agricultural processes; or is the more usual outcry for industrialization justified? Should a country or a region strive for a more or less balanced economy, behind 'infant industry' tariffs, or reap the advantages of comparative costs through specialization and an important share in international trade? To most of these questions no clear-cut or general answers would appear possible; much will depend on the relative merits of definite projects, rather than on general economic characteristics.

Among theoretical problems, two may be mentioned here as being of special importance: the development of effective demand, and the meaning of welfare as a criterion of progress.

Effective demand was not explicitly made the subject of discussion, although it lies implicitly behind all solutions of the problem of expansion. Any suggestion that increased production and income create their own demand, that structural obstacles to increasing demands are weak or that non-human factors are not serious limiting factors, implies that Say's 'Law of Markets' holds in the long run; and there were many such suggestions, either general or within a definite historical context. On the contrary, when the theory of economic expansion is elaborated with the analytical tools of short-period theory, and when a single set of parameters determines total change, the answer to the problem of effective demand generally points the other way; that is, to a possible short-circuit in demand, such as occurs in the theory of secular stagnation. We must list here all models of expansion appropriate to a given

state of organization and technique. Strictly speaking, they can represent expansion only within the limits set by the available resources—within cyclical expansion. Beyond this, changes in organization and technique must either be allowed for explicitly or subsumed.

The value of welfare as a criterion of economic progress was on the contrary explicitly discussed, and was one of the main topics of the conference. It was hardly questioned that, although increases in real income per head might be the best statistical approximation to a measuring rod of economic progress, such an objective interpretation of expansion could give meaning to progress only if it were related to subjective values; this brings us to the social concept of welfare, which implies much more than the mere maximization of individual utilities. However difficult it may be to measure welfare, it is clear that, on logical grounds, it is essential to proceed from income per head to increase in welfare.

On the question of the finality of welfare itself, there appeared to be rather wide disagreement. Many economists, mainly English-speaking, hesitated to put the aim of economics above welfare, and were prone to consider that it was *ultra petita* for them, whatever sociologists or philosophers might have to say about it. Many others, mostly from continental Europe, rejected this methodological distinction and hesitated to give welfare propositions or welfare policies such absolute finality, even in their own thinking. This was not only because welfare propositions which were valid in the short period might not prove correct for a longer period. Their attitude seemed more directly dictated by present philosophical preoccupations in French literature about the *condition humaine*.

That such a cleavage of opinion should occur at a time when opinions are changing so swiftly is not surprising. It would be surprising were it otherwise. One of the merits of international discussion is that it shows where differences of opinion exist, and international associations can render their greatest services by allowing men of good will to subject them to further study.

The remainder of this section of the *Bulletin* consists of summaries of the papers presented at the Santa Margherita round table and of the ensuing discussion. Both the papers and the reports on the discussions are extremely abbreviated. They were prepared by Douglas Hague (University College, London). In the discussion the names of speakers are printed in small capitals at the beginning of each speech.

Note. A volume (600 pp.) containing the papers as they were presented together with a record of the discussion, and edited by Léon H. Dupriez, with the assistance of Douglas Hague will be published for the IEA by the Institut de Recherches Économiques et Sociales de l'Université de Louvain (Belgium). Available there, price £1-17-6.

I. MEANING AND CRITERIA OF ECONOMIC PROGRESS

POPULATION, INCOME AND CAPITAL

SIMON KUZNETS

In this paper (a) the empirical evidence is confined to the years 1750-1950; (b) as much of the world as possible is considered; (c) the unit of observation is the nation-state. World coverage for all 200 years is impossible; for some purposes, several states are combined. But adequate temporal and spatial coverage is important. Discussions in the literature of the subject too often show a wide gap between the author's narrow empirical foundation and his claims of universality.

For measurement purposes, we define economic growth as a sustained increase in total national income or product at constant prices; in total population; in income or product *per capita*. Countries where population and income *per capita* have both grown considerably display as a rule several characteristics; increasing application of science to production and organization; industrialization; a shift from agriculture towards secondary and, more recently, towards tertiary industry; a growing proportion of the population in increasingly large urban communities; widespread rises in material living standards; and also longer life, greater leisure, deeper penetration of secular culture, greater economic and social mobility, and progressively smaller families. We define economic progress as sustained increase in *per capita* income and a rising level of living, with these important corollaries.

POPULATION

No discussion like this can neglect trends in population. We begin with empirical evidence on population, chiefly because the data here permit the widest canvas.

World population rose from about 700 million in 1750 to about 2,400 million in 1950, i.e. more than tripled. This increase was unusually large compared with previous increases. When the Christian era began, world population was probably between 200 and 300 million. Before 1750 the rate of increase was under 7 per cent per century; after 1750 it was 8.6 per cent. Nor is the rate slackening: it was 4.6 per cent per decade from 1750 to 1850, and 8.2 per cent from 1850 to 1950; 7.6 per cent from 1850 to 1900, and 8.9 per cent from 1900 to 1950.[1]

With some exceptions (Ireland since 1850, and perhaps China) this population

[1] All data in the section on population are from the United Nations, Population Division, *Findings of Studies on the Relationships Between Population Trends and Economic and Social Factors* (in press). Willcox's estimates are used for 1900 and earlier; but Carr-Saunders' alternative estimates would yield similar results.

increase has been general—particularly since 1850. From 1850 to 1950, the population of Asia (excluding the U.S.S.R.) and of Africa almost doubled; that of Europe (including Asiatic U.S.S.R.) more than doubled; of Latin America, almost quintupled; and of North America, largely the U.S.A. and Canada, more than sextupled. Despite obvious differences in rates of growth in continental groups over the last century, it is significant that even in areas where *per capita* income is now quite low, population growth since 1850 has been substantial.

This large and sustained population growth since 1750 is due to a drastic fall in death rates following revolutionary improvements in medical, economic, and social technology, and in the second place to a lag in the decline of birth rates ordinarily accompanying increased urbanization and higher living standards. Again, for some 75 of the 200 years, free international migration was on an unprecedented scale. The rate of growth of a country's population in any recent period has depended upon: (a) its birth and death rates when the period began; (b) the rapidity with which its death rate declined; (c) the lag in the fall of its birth rate; (d) the extent of migration.

A detailed consideration of individual countries, based on rates of secular growth of population and on particular combinations of birth, death, and migration rates, would be out of place here. But, considering rates of growth of total, and particularly *per capita*, income, one may draw some broad distinctions. Among countries with extremely high population growth, rapid declines in death rates and substantial immigration were the major determinants—despite sizeable falls in birth rates (the U.S.A., Canada, Australia, etc.); in other countries, rapid declines in death rates were to some extent offset by declining birth rates and emigration (Western Europe, Scandinavia, parts of Eastern and Southern Europe). Some countries experienced substantial population growth because high birth rates and limited emigration more than outweighed the moderate declines in death rates (India, Indonesia, Indo-China, and parts of Africa). Finally, there were countries where declines in death rates were not usually offset by marked declines in birth rates, and growth was also in some cases bolstered by immigration (Latin America.).

This rough classification stresses the diversity produced by combinations of differences in initial levels, in movements of birth and death rates, and in rates of migration. These combinations of demographic variables are extremely important in analysing economic growth. All have a direct impact on the size of population; on its sex and age structure; on the ratio of producers to dependents; on the adaptability of the labour force, through its age structure; and on internal mobility, through disproportionate rates of natural increase and of increase in economic and other opportunities. More elusive, but important, is the link between population and economic growth—through the stability or instability of human life, and the freedom or lack of freedom to migrate. Presumably the pre-modern type of population movement, with high birth and death rates, limited the individual's time horizon and shaped a pattern of family organization, cultural response, and social ideology less favourable to individual self-reliance. Yet the latter was important for economic growth during the last two centuries—at least before 1914. Likewise, the freedom of workers in the prime of life to move to countries offering greater opportunity, though a direct loss to their home countries, may have benefited even the latter.

Because of these impacts of population trends on national economic growth,

no theory of economic growth can ignore them. That these population trends and their determinants are, in turn, affected by economic processes, is all the more reason for trying to incorporate them as integral elements in a theory of economic growth. However discredited the laws of population may be, the inclusion of such laws in analysing the growth of nations or of capitalism seems sound. The present separation between demography and economic analysis can scarcely lead to a tenable theory of economic growth.

INCOME

National income estimates for a period long enough to permit observation of growth are available for only some 14 countries—almost all of them economically developed. Fortunately, for recent years there are estimates for about 70. Although sometimes crude, their use in combination with the few available for long periods, permits reasonable inferences concerning trends for the last century.

Of the 2,080 million of world population covered by national income estimates for 1949, over 30 per cent had *per capita* incomes of less than $50; and another 25 per cent between $50 and $100.[1] These are countries in Asia, South-East Asia, Africa, the Middle East, and Central and South America. The U.S.A., the U.K., most Scandinavian countries, Switzerland, Canada, Australia, with 11 per cent of the world's population, had *per capita* incomes of $600 or more. The 400 million of world population not covered by these statistics were probably in the lowest income brackets. Thus over 60 per cent of world population had *per capita* incomes less than $100; less than 10 per cent had $600 or more; the rest were arranged in a spectrum, with the older Western European and some South American countries at the top and the Eastern and Southern European countries and Japan at the bottom.

The long records of national income are, with the exception of Italy and Japan, for wealthy countries. There rates of growth in real income *per capita* are quite high, ranging from 10 per cent to well over 20 per cent per decade, except for periods marked by destructive wars and the remarkably high, but somewhat doubtful, rates for Japan (in the Ohkawa variant). A rate of 10 per cent per decade means that *per capita* income rises over a century to over two and a half times its original size; a rate of 20 per cent per decade means a rise to over six times. In practice, growth of national income *per capita* varies between a rise to about two and a half times in a century and one to well over seven times.

Three tentative inferences can be drawn.

1. For countries with current incomes of below $100 per head, any appreciable growth in incomes during the last century is unlikely. It is difficult to imagine a growth of even 100 per cent; under the existing medical and sanitary conditions, people could hardly have survived on even three-quarters of the current *per capita* income.
2. In the older poor countries, with some exceptions (e.g. Java under the Dutch), population growth during the last century, while substantial, was

[1] The current estimates are based on the UN Statistical Paper, Series E, No. 1, *National and Per Capita Incomes, Seventy Countries, 1949* (New York, 1950). The estimates for long periods are from a variety of sources, ranging from monographic studies for single countries, to compilations like those of Colin Clark, but chiefly from detailed studies for single countries.

much slower than in countries with rapidly rising income *per capita*. *Total* national income must have also risen much more slowly in most still underdeveloped countries than in richer countries.

3. A hundred years ago international differences in *per capita* income must have been both absolutely and proportionately narrower than they are today.

A fourth, somewhat less firm, inference concerns *per capita* income in underdeveloped countries today, compared with that in the more developed countries before industrialization. The present contrast seems to be only partly due to differences in rates of income growth during the last century; in part it is due to differentials already existing in earlier days. Colin Clark's crude figures illustrate, if not prove, the point. His estimates of income per worker for the developed countries prior to their industrialization—Great Britain in 1800 or even 1688, the U.S.A. in 1830, Sweden in the 1860's, etc. are all above 300 international units, compared with 138 for China in 1935; 230-250 for British India in the 1830's and 1940's; 100 for Japan in 1887, and only 190 even in 1920. In other words, *per capita* income in a large part of the world today is significantly lower than it was in developed countries before industrialization. For the study of historical records shows that countries like China and India occupied relatively advanced economic positions in the early world.[1] May not the current problems of these countries arise because their past economic superiority left large populations and social mechanisms which are now obsolete and which constitute serious obstacles to adopting modern economic and social technology?

Turning to national income (and population) in economically advanced countries, we observe in most a decline in percentage rates of growth of population, total national income, and income *per capita*. If one followed historical records back far enough, one would find a period of acceleration in rates of growth; in the older countries, like the U.K., this acceleration would concern population, total income, and income *per capita*—since the high rates of growth both population and *per capita* income are modern phenomena. In the younger and initially empty countries, like the U.S.A., it would concern *per capita* income, but not necessarily population and total income, since the rates of population growth may have been high from the very beginning. The picture for countries that were well settled by 1750 is one of a long secular swing—from low rates of all our variables, increasing to much higher ones, then declining again—and for initially relatively empty countries a truncated swing in the rate of growth of population (and, perhaps, national income), high initially and then slowing down; and a complete swing in the rate of growth of *per capita* income, low at first, increasing during industrialization, then gradually declining. The statistics delineating the earlier swings are scanty; although there is evidence about income for the U.S.A., Sweden, Australia, and Japan; there is ample support for a swing in the rate of population growth in the older, settled countries in Europe. But no data are available for studying the lag of acceleration in the growth of *per capita* income behind that of the swings in population growth (in countries well-settled by 1750).

Two other comments can be made. First, for these 14 countries there is no clear association between the rates of growth of population and *per capita* income. Some countries (e.g. the U.S.A.) have high rates of growth of both

[1] The alternative explanation, that currently developed countries did not 'come up', but those that were the economic leaders previously, say prior to the eighteenth century, 'went down' is much less tenable.

population and income *per capita*; some high rates for population and low rates for *per capita* income (Netherlands); some have low rates for population and high ones for *per capita* income (Sweden); some have low rates for growth of both (France). Second, one should not exaggerate secular trend rates, or their pattern. To illustrate, the observed retardation of economic growth of nations, as reflected in our variables, is inevitable only as an algebraic abstraction. It does not reflect the action of forces allowed to operate unchecked. Competitive relations between nations are unlikely to permit such trends to run their full course. A country losing its economic position because of a slowing growth will be given a push by war, hot or cold, that may unrecognizably change the trend; a country forging ahead on an unsound foundation may find itself estopped by clashes with its neighbours. These forces are reflected in the breaks we find in secular records of national income in Germany, Japan, Russia, Austria, Italy, etc. An acute question in the theory of economic growth is the place of the major international conflicts which are associated with disparities in national rates of growth.

CAPITAL

Before 1900, economic writing and empirical study emphasize the wealth or capital of nations more than income. This may have been partly a matter of ease of measurement, or of the importance attached to real capital accumulation as a factor in economic progress. But the approach fell into disuse and has only recently been revived. Recent information on national capital is much scantier than that on national income.[1] Using the limited data from our own studies for the U.S.A. and from Colin Clark's compilations for other countries, we can draw three tentative conclusions:

In the few countries with long records of growth of reproducible capital (including dwellings, but excluding personal goods), the rate of growth first exceeds, then falls short of, that of national income. Thus, the capital-net output ratio first rises, then becomes stable or declines. It rose in the U.S.A. from 2.8 in 1880 to about 3.9 in 1929, then dropped to 3.2 in 1944; rose in Great Britain from about 4.5 in 1865 to over 6 in 1895, and stayed roughly constant until 1913; rose in France from somewhat less than 4 about 1850 to about 6 by 1900 and to almost 7 by 1913. This stabilization or decline in the capital-net output ratios is more significant since rates of national income growth declined. Apparently at some phases capital accumulation was particularly rapid. It would be interesting to date and analyse that phase, but data are too scanty. The impression is that there is a long secular swing—now in the rate of capital growth—with timing relations to the secular swings in the rates of growth of population, total income, and income *per capita*.

For roughly the same dates (but excluding World War I and later years) the capital-output ratios for the more developed countries were noticeably higher than for the younger countries with an even higher *per capita* income. About 1913 the ratios were over 6 in France and Great Britain, about 5 in the Netherlands, and over 4.5 in Germany. They were close to 3 in the U.S.A.

[1] A thorough search and critical evaluation of the nineteenth century literature, which could not be undertaken for this paper, may yield much additional information on national capital, as well as on income.

Canada, and Australia. This difference is only partly explained by the overseas investments of the older European countries, and these foreign investments with their high ratio of principal to yield served to raise the total capital-national income ratio. More significant is the functional relation between accumulated reproducible capital, the proportion of net capital formation to national income, and the rate of growth of the latter. The larger the savings proportion, the higher the ratio of accumulated capital to national income. The higher the rate of growth of national income, the lower the capital-output ratio. In older European countries, the capital-output ratio was raised both by relatively high savings—traceable perhaps to greater inequalities of income, lower social mobility, and other factors—as well as by lower rates of increase of national income. In the younger countries, savings-income proportions were held down by greater equality of incomes, greater social mobility and high rates of growth in national income. These statements are not inconsistent with a possibly higher rate of growth in reproducible capital per worker or per head in the younger countries, which contributes to a higher rate of income growth per worker or *per capita*.

Capital-output ratios in underdeveloped countries may be higher than in the younger developed ones, and at least as high as in the older developed European countries before 1914. Given low rates of national income growth, these underdeveloped countries can maintain a high capital-output ratio with little capital formation. If national income is growing by 0.5 per cent per year, a capital-output ratio of 6 can be maintained with net capital formation equalling only 3 per cent of national income. Given the inequality of incomes in the underdeveloped countries, a money savings rate of 3 per cent is not unreasonable. The question is whether these savings, generated at upper income levels, flow into productive capital formation.

The definition of reproductible capital used above comprises construction, producers' (and the government's) durable equipment, inventories, and balance of foreign claims. If we view capital as all tools for increased productivity for economic growth, this definition is too narrow; it should also include all goods held by consumers and all resources (e.g. education and training) making for a more efficient labour force—a society more capable of grasping the potentialities of technical progress. If, however, we view capital as the tools of economic enterprise more narrowly defined (business firms and government business corporations) we should have to exclude residential construction and all stocks in the hands of the government proper. According to the alternative definitions of capital used, there will be large differences in the level and trends of capital formation and capital stock, in relation to national product.

For studying economic growth, the broader definition of capital is desired—one including much of what is usually measured under consumer expenditure. The narrower definition, the only one for which measures are now available, is better adapted for analysing short-term cyclical problems. With capital so defined, the capital-output ratio can change appreciably within two or three decades on a country-wide scale, and even more rapidly for distinct industrial sectors. Such changes reveal that identical values of capital, in the narrower definition, can contribute to widely different amounts of product. The key is not in the physical stock of plant and equipment; it is in large part in the capital invested in human beings and in the whole economic and social structure that conditions the use of plant and equipment.

STATISTICAL MEASUREMENT OF VARIOUS MATERIAL ASPECTS OF ECONOMIC PROGRESS

JEAN FOURASTIÉ

The ideal success of economic science would be to sum up the whole of economic evolution in a single index. This complete success is unlikely, so that we must inevitably make more particular and analytical studies, which tend to be incoherent and complex. The mind then reels under a mass of figures, and we cannot unravel either causes or consequences. We must, however, understand the nature of economic life as a whole well enough to communicate that knowledge fairly readily to men of action and students. For we have to teach economics to the myriad people who play a significant part in economic affairs.

We first consider the aims of indices of economic activity and their intrinsic difficulties. The aim of any science is to inform the human mind as completely and rapidly as possible. By reason of the very nature of life, man must understand the universe as precisely as possible and, especially, be able to foresee the results of his actions. The dramatic task of science is to make the immense and complex world comprehensible to human minds, limited in time and space. From this arises the necessity for both synthesis and analysis. If man gives priority to his own thought, he constructs internally-consistent intellectual systems bearing no relation to experience. If he frees himself from such internal magic, his mind falls prey to the disorder, the chance events, of life. Thus we simplify our problem by three procedures: choice of study, rapidity of study, generalization of study.

1. *Choice.* We seek to understand only a few of the phenomena of the universe, and the limitations of our senses themselves direct our choice. On the basis of our needs and circumstances we legitimately choose for study those phenomena which seem preponderant. Such choice is always more or less arbitrary.
2. *Rapidity.* If thought were as slow as action, knowledge of the universe would always remain beyond us. But we possess the extraordinary faculty of understanding and thanks to memory such understanding remains.
3. *Generalization.* Further, our capacity for abstraction enables us to consider as identical facts which are not so. Generalization is necessary because the choice and rapidity of information are insufficient to enable us to understand the universe. There are too many facts to be known individually. We reduce them to typical cases by generalization and classification, passing over 'details'. We must not, however, consider as secondary what is preponderant. We must beware not so much of neglecting a given characteristic as of failing to realize that we have neglected it.

Since no two facts are identical, any classification only of identical facts would have too many classes for us even to conceive them. But where should we stop this necessary abstraction? We reach the limit when the element considered as preponderant is extremely changeable, and additions become meaningless. This clearly happens with many aggregate indices, especially of industrial production. These observations do not condemn such syntheses, but the latter represent only a partial aspect of reality. Facts are of the 'same

kind' only from a given viewpoint. We must make explicit the principle we choose for reducing facts to this 'same kind.'

Such are the constraints of statistical study—the only serious weapon of economic science. We must remember them to avoid multiple mistakes, absurd comparisons, childish confidence. But we should also remember that any series is perfectly valid within its limits.

In view of these organic weaknesses in explanations of economic evolution, how best can we proceed?

Our assignment is to analyse the growth of production resulting from human labour in the past 100 or 200 years, and should deal with all kinds of production, all countries, all kinds of labour. Further, we must emphasize the human aspects.

The main categories of facts falling within our sphere appear to be four:

1. Economic facts, like natural resources, enterprise, physical production.
2. Social phenomena, like length of life, or unemployment.
3. Intellectual phenomena, like education, culture, and domestic, national and international relations.
4. Moral phenomena, like mental outlook, individual liberty, divorces, suicides, etc.

Such a summary 'table of contents' opens up a vast undertaking. For instance, the exhaustive *Statistical Abstract of the U.S.A.* would not answer many of our questions, even about economic facts such as labour productivity—the word 'productivity' does not even appear in the index—yet the *Abstract* for 1950 contains 908 pages of figures and 1,062 tables. And only one nation is in question, and most series only cover 50 years! Can we make such chaos intelligible?

We need synthetic representative series which will replace all these existing statistics. What qualities should these representative series possess?

Series must Exist

This condition may seem superfluous. In fact it is Draconian. We require:

1. Series going back at least 50 years, and if possible 100 or 200. If we think that economic progress of the present intensity is relatively recent we must verify this. Similarly we must compare our epoch with the relative stagnation of the previous 'traditional' period. Do all phenomena of the contemporary epoch show progress? Knowledge of the 'traditional' period is indispensable to understand both modern business cycles and the price structure of progressive countries. France in 1750 in some ways resembled present-day India.
2. Series for several countries. The more countries are represented the more fruitful the series.
3. Series which are scientifically reliable. They need not be absolutely correct, but unavoidable error should not blur the result. One should always give margins of error with statistical series. Yet no country seems to have realized that the calculation of such errors is essential. So we must evaluate margins of error approximately ourselves, and only consider as indicative those series where variations are at least three times possible errors—for phenomena leading to fundamental conclusions we require an excess, as a rule, of 10 times. This simple condition considerably reduces our investigation.

Series must Represent a Phenomenon which is Preponderant

1. A preponderant phenomenon is one important to our problem.
2. To represent an extremely varied and complex class of facts there must be a definite measurable relation between any index and the facts it represents. To be sure of the reality of this relation we cannot be satisfied with ingenious mathematical correlations, and shall distrust artificial coincidence. We require evident and intelligible connexions between the two phenomena.
3. The series must also possess the most valuable quality of permitting prediction. They must reveal a definite tendency, with identifiable causes. Without such series, we lack the supreme sanction of factual verification. Whilst it is still difficult to obtain, in the short run, series which are at once causal, synthetic and predictive, it is quite otherwise in the long run, at least for such phenomena, powerful and slow in evolution, as labour productivity, price structures and the structure of production. These are the preponderant phenomena we seek.

The above analysis has shown the limitations of any answer that we may propose to our problem. Fortunately, we do not need more than a rough image to enable us to follow the evolution, in the last 100 or 200 years, of those aspects of production which appear to us preponderant. The simple principles given above will guide our choice:

1. Productivity. Production per hour of total work, direct and indirect.
2. Price. Productivity multiplied by cost price equals average normal wage. Productivity statistics are thus also statistics of real prices.
3. Consumption. In the short run, production determines consumption; in the long run, consumption determines production.
4. Production. Productivity multiplied by employment. These fundamental indices of economic progress are thus not independent. All may be deduced from two autonomous factors: productivity and consumption patterns.

Statistics of productivity. Productivity describes the essential long-run economic fact. If productivity had not increased, consumption would have remained stagnant and its structure could not have changed. Stable long-run productivity thus implies stability of 'real' prices, production, consumption, national income, etc.

But productivity has clearly increased greatly in the last 100 years. For example, the productivity of all U.S. manufacturing industries seems to have risen more than fivefold since 1869. In France, between 1840 and 1940, productivity is estimated to have risen by some 3 per cent per year. In agriculture the increases are from 15 to 135 in the U.S.A. and from 20 to 100 in France between 1750-1800 and 1950-52.[1] The figures are accurate to 25 per cent or even 50 per cent; the increases are by 500 per cent to 900 per cent.

Analytical investigations are more interesting, revealing extreme irregularity in progress between products.

I call tertiary those types of production which have stagnant or slightly increasing productivity, for example, men's hairdressing. A specimen Paris hairdresser did not 'produce' more hair-cuts in 1950 than in 1900; the number was 3.5 hair-cuts per working hour in both periods. I describe as secondary

[1] The U.S. figures are based on work by the National Bureau of Economic Research. The French figures are my own.

or primary, industries with noteworthy progress in productivity. Among agricultural products, the most progressive are cereals; the least progressive tobacco and soft fruits. Among agricultural operations, one of the most progressive was harvesting; one of the least, strawberry-gathering.

For industrial production, the series show irregular progress in time, space, and according to products and operations. L. H. Dupriez has given statistics of productivity per worker for Belgium and several series relating to Britain, Germany and Austria. There are also several comparative studies between nations, particularly by L. Rostas. All productivity statistics, by product, operation or nation confirm that progress in productivity depends on progress in techniques of production due to physical or human science. It is irregular progress in science and in its application which causes irregularities in the progress of productivity.

Price statistics. In the long run, in areas of weak demographic pressure, the difference between costs and selling prices is constant or slowly decreasing. Average selling prices therefore depend only on aggregate productivity.

Stability of monetary value cannot be related to prices, since all prices depend on productivity; it can only be related to average wages. Average hourly wages are the essential economic fact. National income divided by average hourly wage represents aggregate hours worked during the year—a figure proportionate to working population.

The reason why a pound of potatoes in the U.S.A. is approximately the same price as a pound of wheat, whereas in France 2 pounds of potatoes, in Italy 2.5, and in Poland 6 pounds of potatoes equal 1 pound of wheat, is that productivity in potatoes and wheat are similar in the U.S.A. but in the ratios 1:2, 1:2.5, etc, elsewhere. Around 1800, 1 quintal of wheat required 250 hours work in all countries, 1 quintal of potatoes only 25. Average production time for 1 quintal of wheat is now 14 hours in the U.S.A., 33 in France, 50 in Italy, and 100 in Poland. For potatoes it has fallen only to 13 in the U.S.A. 16 in France, and 19 in Italy and Poland. These figures explain national differences in the purchasing power of wage earners. Above all, they explain the general structure of relative prices and variations in this structure.

Real price equals price divided by hourly wage. Real prices in tertiary industry are constant and thus similar everywhere. A hair-cut costs 1 hour's wages, a stall at the Opera 7-8 hour's wages. By contrast, a wireless set costs 20 hours' wages in New York, 80 in Stockholm, 100 in London, Paris and Brussels, 130 in Milan, 200 in Madrid.

The parallelism between prices and overall productivity is such that, for all products consumed in large amounts, price statistics are also statistics of overall productivity. Thus we can extend our statistics of productivity in time by studying statistics of prices. Statistics of the price structure are basic to the study of economic progress.

Consumption statistics. The structure of consumption is an autonomous variable in relation to productivity. The consumption of a product alters, not because of progress in productivity but because of changes in needs. In France, consumption of both wheat and potatoes has varied similarly, though productivity has differed significantly. Consumption of oats and wheat have evolved differently, although productivities and thus prices have varied identically. Finally, the 'consumption' of hair-cuts has increased more than that of wheat,

although the productivity of hairdressers has remained stationary, while that of wheat growers has sharply increased.

This shows the importance of demographic phenomena. They are of a kind which radically change our point of view. The present paper assumes that progress in productivity is more rapid than demographic expansion—as is certainly true in the West. If productivity progresses less than population, selling prices and cost prices are no longer parallel. Ground rents increase instead of falling; the standard of life is not raised; and consumption patterns, national income, etc., develop very differently.

Where population grows more slowly than agricultural productivity, however, *per capita* consumption increases, especially for secondary and tertiary goods. In the long run, consumption determines production; one cannot consume without producing, nor, ultimately, produce what is not consumed. This agreement between production and consumption is achieved only through employment, the distribution of the working population.

Thus, in the long run consumption determines production. The structure of family budgets, of production, of national income, and the working population all develop in parallel.

Production statistics. In the long run, these depend on consumption. However, intermediate goods must be treated separately. We must simultaneously follow both the general consumption of steel and that going into motor cars, etc. Investments especially must be considered separately.

DISCUSSION

A discussion on the above two papers ranged over various points. First MR. CAIRNCROSS queried the view that the rate of growth of national income was now slower in mature countries like the U.S.A. and the United Kingdom. He put 1 per cent per annum as the rate of growth in those countries during the nineteenth century. Surely that rate must now be greater?

MR. KUZNETS replied that the rate of increase of *per capita* income had definitely fallen off in the U.S.A. He gave figures for three periods based on a 25-year moving average. In period I, where the terminal groups of years were 1869-88 and 1889-1908, the increase of *per capita* income per decade had been 23.7 per cent. In the second period, with the terminal years 1889-1908 and 1909-28, the rate of increase per decade was 17.6 per cent. In the third period, 1909-28 to 1929-48, the rate was 9.8 per cent.

MR. CLARK agreed that one could expect a slowing down in the rate of growth in a country after a considerable period of rapid expansion. Even within the U.S.A., those states with high *per capita* incomes in 1929 now had lower rates of growth than states which had been poorer in 1929.

He stressed that, at the beginning of the industrial revolution, the developed countries were already well-advanced, commercially and technically, much more so than underdeveloped countries today. There was also evidence that certain areas in the ancient and medieval worlds had high levels of income. This raised a fundamental question, namely, 'Why did some countries progress from this reasonably high level of development; why did some others remain stagnant or even decline?'. There was considerable discussion on this point.

MR. RUEFF thought progress, productivity and the institutional framework of nations were closely related. A recent report on Mining Legislation had shown that the efficient exploitation of mineral deposits depended on institutional factors. It was also important

not to underrate the influence of longer life on technical progress. Penicillin might now be one of the most important agents of progress.

MR. DAHMÉN agreed with Mr. Kuznets that an increased standard of living caused by improvements in the existing structure of the economy was essential to rapid progress, but felt that the importance of such initial progress, say, in agriculture, had often been underestimated. Difficulties arose not only because of lack of 'know-how' or of saving. They often occurred also because people were not sufficiently 'progress-minded'. This resulted from a limited time-horizon, attributable partly to the high death rates in backward countries. Mr. Dahmén thought it important to remember this in dealing with backward countries, where progress could perhaps only be achieved by grappling with two important problems. First, they ought to slow down the 'high turnover of human beings' caused by high death rates; second, they should start speeding-up innovation in agriculture and commerce.

MR. PAPI stressed the importance of factor-proportions in determining whether progress was possible. He noted that the level of *per capita* income in a country like Italy depended on the growth of population—i.e on one factor of production. This growth might or might not be accompanied by proportionate increases in other factors. If not, *per capita* income would probably decline. One should remember that amounts of work done, of income earned and of spending on consumption were determined by individual decisions. For example, if people were poor, they would spend much of their income on basic goods and there would be a lack of savings. Similarly, there might be a 'Veblen' effect, with a shortage of savings in an economy because too much was being spent on luxuries. Mr. Papi felt that if savings were lacking, for whatever reason, production would decline and unemployment ensue. Progress therefore depended on attaining a satisfactory proportion between the various factors of production.

MR. FRANKEL suggested that the importance of geographical factors affecting progress was usually underestimated by economists. In the East, for example, thousands of people lived in small, more or less self-contained, areas and could do so only by reducing consumption to a minimum. Similar situations existed in many parts of Africa. He wondered whether such peoples were necessarily unprogressive? Admittedly, if progress merely meant technical progress, it was reasonable to suppose that people in such difficult environments ought to move elsewhere. But this would not be easy and might well be undesirable. The difficulty was that, in offering solutions to such a problem, economists tended to assume that economic progress could come quite independently of geographical, sociological and other factors.

MR. FOURASTIÉ supported both Mr. Rueff and Mr. Frankel on the relation between progress and the outlook of the population. The U.S.A. tended to assume that technical factors alone held back progress in Europe, but Mr. Fourastié did not agree. The Americans had given us technical assistance, but it was not all-important.

It was interesting to note that it was Christian societies which had progressed most rapidly. Perhaps this was because the Christian religion drew attention to the importance of material as well as spiritual things in life and showed that material progress was valuable. There was also a certain connexion between that religion and the spirit of individual reflection, which had led mankind to the modern scientific spirit, based on observation and on experience. This scientific spirit, Mr. Fourastié claimed, was the primordial element of economic progress.

Probably the main controversy was over the definition of capital and the behaviour of the capital-income ratio. First, there was a problem of definition. Claims that the usual definitions of capital were too narrow for useful discussion of economic growth were strongly contested by MR. DOMAR. He challenged the wisdom of Mr. Kuznets in defining capital to include consumer durables and also investment in the education of human beings and in research. He was afraid that if this definition were adopted, the national income would have to take account of the services rendered by chairs, knives, etc. Again, one might have to consider the depreciation or replacement of human beings. Mr. Domar thought it perfectly reasonable to suppose that expenditure on education and research was more important for progress than expenditure on capital. But was it really useful to deal only with the two aggregate complexes of income on

the one hand, and capital on the other? Could we not use more variables rather than try to squeeze everything into the two categories of capital and income?

MR. KUZNETS agreed that it was desirable to analyse consumers' expenditure very closely to show how it affected growth. It might be claimed, 'that anything (except labour) which increases output is capital'. On that definition many factors of production would be closely akin to capital. Mr. Kuznets also called attention to the intricate problem of how to make estimates of depreciation in developed and undeveloped countries. Depreciation in developed countries allowed for economic obsolescence, which in a sense was evidence of progress itself. The actual productive power of an asset in physical terms might be the same; but a new and more productive asset could now be bought for the same price. In undeveloped countries, however, depreciation in the sense of physical deterioration was real and the labour of, for example, a Chinese farmer repairing dykes would represent true replacement.

In answer to a further question from MR. CAIRNCROSS, Mr. Kuznets confirmed that capital accumulation in the United States in the 1870's and 80's represented only 5 per cent to 7 per cent of net national product—capital here including business construction, producers' durables, plant and inventories, but excluding residential construction and foreign investment.

Professor Kuznets felt that, in view of the intensive use of capital in developed countries, the decline in the capital-income ratio in such countries in recent years was not surprising. There was no doubt that it had occurred. Recent studies showed that in the United States railways, 'the acme of industrial progress', the capital-income ratio had declined over a period of 50 years from 16 : 1 to 4 or 5 : 1.

Part of the explanation was that an important part of capital investment not included under 'capital formation' was now devoted to building up the sheer elaborateness of organization required by modern society—for example, to bring people to work on time and to develop communication systems in large plants. There was also the huge intellectual effort required to produce engineers capable of running such organizations.

MR. CLARK suggested that although rich countries had greater opportunities for accumulating capital both at home and overseas, their capital-income ratios were low because so much of their income consisted of services, where the capital needed was small. Indeed, if overseas capital were excluded, the U.S.A. capital-income ratio was the lowest in the world. Mr. Clark also pointed out that, as a society advanced, a smaller proportion of its savings was devoted to house-building.

MR. FOURASTIÉ suggested that it might be valuable to consider also the prices of capital assets, like railway engines; these prices themselves were affected by technical progress. Changes in the prices of capital goods must surely be important in determining the rate of economic progress.

MR. DUPRIEZ questioned Mr. Fourastié about the price relations discussed in his paper. These relative prices were very interesting, especially since they considered technical progress from the long-run point of view. They were concerned with relative and not absolute progress. This seemed reasonable in the long run, where short-term price changes were ruled out. Indeed, Mr. Dupriez was surprised that figures of relative prices were not more used. But he wondered whether economists should use as denominators prices of commodities like cereals. Perhaps it would be better to use wholesale and retail prices, which represented a more average position. He claimed that before 1870 relative prices had changed more than they had done since. Perhaps this was because, before 1870, inventions, with their disturbing effects, were confined to particular sectors of the economy.

MR. FOURASTIÉ concurred with Mr. Dupriez on this distinction between the short and long period and its importance; long-term changes in relative prices were often scarcely visible over short periods. As to the denominator used in measuring this ratio, Mr. Fourastié did not think it important what it was—the main need was to choose a denominator which showed the right kind of movements. For example, in the particular instance chosen by Mr. Fourastié, the intention was to show the similarity between changes in the prices of cereal products, and the differences in changes in the prices

of other products, also agricultural, in this case potatoes and tobacco. The price of wheat was therefore used as the denominator.

A final point was raised by MR. FRANKEL. He wondered how far we were nowadays befogged by our use of the word 'nation'. For example, most economic phenomena were measured nationally. Might there not be advantages in assembling statistics so as to relate economic growth across national frontiers, where that growth was actually related? The picture would then look very different. In Africa, for example, we should see that there were many small pockets of quite rapid growth which were related to activity not in other parts of the African continent, but in other parts of the world.

MR. KUZNETS agreed that concentration on the nation as the unit within which progress was measured and studied might well lead to an unfortunate narrowing of focus. He thought the correct method of making the distinction was to start from trans-national forces—those which existed in the world at large—for example, the development of physical science. These had to be distinguished from international forces which arose in the form of international trade, or sometimes, regrettably, in international conflict. Then, of course, there were national forces. Mr. Kuznets agreed that our data were divided up nationally, and we therefore committed ourselves to treating the problems under discussion on a national basis. But there were good reasons for doing so. The problems of progress, and the decisions which had to be made to ensure progress, were difficult; they required great sacrifices from various groups of people and it would be impossible to make the decisions necessary for progress, were it not for the existence of nations and of the power of the state. This alone produced a cohesive unit within which such decisions could be taken and carried out.

RELATION BETWEEN PROGRESS IN ECONOMIC WELFARE AND HUMAN PROGRESS

HENRI GUITTON

This paper considers whether progress in economic welfare alone ensures wider human progress. We approach the formidable question by considering the concept of progress.

This idea has always occupied a leading place in economic writing. Indeed, economic science might never have existed without it. Economics was born in the philosophic atmosphere of the late 1700's, when human thought seemed to be emerging from the long 'theological' phase, and about to yield to the enticements of the age of reason. There was ready belief in the world's future transformation. Man saw the Golden Age ahead. No doubt ancient philosophers like Lucretius, or later ones like Leibnitz, had exalted the idea of progress. Yet only towards 1800 did the idea become dominant. One need only mention Condorcet. Bentham wished to live a further century to verify anticipations of the new philosophy. Adam Smith, Turgot, Saint-Simon all imbibed this atmosphere.

Progress became the new goal of humanity. It inspired the early 1800's, though perhaps it was less important towards 1900 and up to 1914. But it reappeared, perhaps strengthened, after the two wars. Thus the idea of progress, after two centuries, is still pre-eminent.

We talk much of progress, and have some intuition of its meaning. We want or we fear it. But despite this intuition, there is great difficulty in defining progress; perhaps we prefer to leave it surrounded by a certain mysteriousness. However, we must attempt a definition. *Progressus* literally is a step forward. A progress is a change, allegedly favourable, from less to more. It is marked by a double increase, in quantity and quality. This increase is still vague and abstract. What is its substance? To answer, let us first evaluate the change in this *quid*, this something difficult to define, in relation to an initial state and an end, an aim. Our evaluation will cover a long time-period. Short progress (though conceivable) is too uncertain.

Are not the expressions 'progress in economic welfare' and 'human progress' more generally themselves a reply to the question about the object or the content of progress? We consider economic progress as increasing and improving welfare, as though we were perfectly capable of defining welfare. That is one possible form of progress. The second gives more food for thought. At present we cannot define its object. But does not this *quid* constitute the essence of human nature? Thus the problem may at least be stated. Are progress of welfare and of man ordered by each other?

Let us try to answer this question by suggesting a further distinction. Although progress represents a long-lived rising flow, we may study it in the present, as though taking a vertical section. We consider relations between the two forms of progress within a spatial rather than temporal field. Clearly, by remaining in the present we still cling to the surface. We must go deeper, and allow for the passage of time. Progress implies a continuous movement; its continuing existence is more essential than its present existence. By reflecting on its evolution and enquiring whether it is self-propagating or self-retarding, we may discover its nature.

COMPLEXITY OF PROGRESS

Man is a complex being. The mind's first reaction is to simplify and reduce this multiplicity. We proceed by dissociation, dividing up difficulties to solve them. Let us consider various aspects of human behaviour to try to find a criterion of progress.

There are several forms of progress. For example, there is technical progress—an increase in quantities produced. There is biological progress—greater expectation of life; fewer diseases. There is progress of an economic and of a political order; here criteria are more difficult to establish, being no longer quantitative. There is social progress—an improved distribution of the advantages and disadvantages of production. Finally there is cultural (including religious) progress. There is clearly increasing difficulty in defining progress as we rise in the scale of values.

Let us suppose that we have our criteria. A first thought occurs: is not general human progress a synthesis of all these possible forms of progress? One could thus speak of partial and of total progress. But the naiveté of such a conception is obvious. How can one blend magnitudes which are so difficult to express, so heterogeneous? How should we weight each item in constructing a global index of human progress? The undertaking would be vain. This does, however, show that human progress in the wide sense is something much more profound and complex than any of its components.

We could try another path. Could we not use the idea of an optimum, so popular in contemporary economics? We know that progress is never the achievement of a maximum; that between the maximum and minimum is an intermediary position precisely indicated by the name 'optimum'. If we knew the optimum position in each field, we might ask whether human progress is achieved when all conceivable optima are reached. But this merely shifts the difficulty. Even where human activities allow of measurement, the determination of optima eludes us. Again, we risk opposition between optima.

What, then, of non-measurable activities? Knowledge of human progress is not measurable. Progress in welfare may be perceived by quantitative calculation. Human progress is beyond calculation, especially addition: it is essentially a single whole.

THE ENDS OF PROGRESS

We know the importance of choice in analysing human behaviour. But we may distinguish between the choice of means and of ends. To say that economics is the science of choice, refers solely to means. We imply that when an end has been chosen, economic science gives the most opportune combination of means for achieving that end. Current ideas of economic welfare seem to be equally detailed. Everyone defines his own welfare by certain ends, of which he alone is judge. He considers only the results of his appreciation and makes the tally, as though welfare, so mysterious in substance, were susceptible of accounting. If individual welfare can be known, then social welfare is understandable. But have we the right to add up heterogeneous quantities, as Pigou proposes, following Bentham's line? Even if we agree with Bergson[1] that social welfare is a function to be derived from the welfare of individuals, there still remains the difficulty of discovering a function insensitive to the individual's changes of scale. At present we could say that economic welfare exists when the total function of all individual welfares is in an *extremum* position. The progress of this welfare implies both extending this *extremum* and also the least possible inequality in the distribution of total welfare.

We have rejected any normative criterion. We appreciated its interest, but considered it to be outside a purely economic study. Yet, when we speak of general human progress we have to make the choice of ends our central consideration. What could human progress be without ends? Can we speak of human progress when the perfect disposition of means brings destruction? There may be economic progress in fighting a war; but war itself is not progress. We may however think that even the war prevents a greater evil, and serves more human ends. We must ask whether there is not, beyond all conceivable ends, an end in itself for each individual and for humanity.

A contemporay French author[2] distinguishes the philosophies of being and having. In general, philosophers are not interestes in 'having'; similarly, economists care little for talk about 'being'. But are not being and having related? Being is certainly not measurable. It is experiences and always qualitative. The problem is whether an increase in having leads to an increase

[1] A. Bergson, 'Socialist Economics', *A Survey of Contemporary Economics*, 1949, p. 412.
[2] Gabriel Marcel, *Être et avoir*, Collection *Philosophie de l'esprit*, Aubier, Éd. Montaigne, 1935.

in being. Basically, the word welfare is equivocal. It really indicates that quantity of 'having' which satisfies basic needs. We admit implicitly that this enjoyment is sufficient for 'being'.

But this is precisely what is in question. Even if progress in economic welfare—economic having—has occurred, it is not certain that such bodily progress ensures progress of the spirit. Doubtless a minimum of comfort is necessary to human welfare. But this is not a sufficient condition. Maximum of welfare does not confer a maximum of 'being'. There is no automatic coincidence between economic and human progress.

RELATIVITY OF PROGRESS

There is no such thing as progress in itself. Economics, the science of choice, is also the science of the relative. Measurable progress can only be related to a basic state of welfare. But what of human progress? How can we reckon that?

We need here a further distinction between objective and subjective progress and an associated distinction between social and individual progress. Objective progress can be measured either for the group or for the individual; subjective progress can be perceived either by the group or by the individual. Human progress is essentially subjective, and thus relative.

The choice of an observational framework influences the nature of progress. In principle, we should not study progress except within a homogeneous, established structure where data are comparable. Thus economic or human progress has only an elliptical meaning. The world is heterogeneous, and progress only has meaning for a homogeneous group. What represents progress for one group will not do so for another. Economists face this relativity when comparing national incomes between countries.[1]

Relativity is also expressed within the same group. Increased objective progress causes subjective distortion, psychologically more important than the objective progress. This distortion is related to the Veblen effect, a well-known phenomenon. It concerns a man who compares his welfare today with his welfare yesterday. If he considers his fellow men, the comparison with them threatens to destroy his own impression of progress. A jealousy effect is superimposed on the enjoyment effect. If others have progressed more than he, he loses all sense of progress.[2]

These remarks show how increased welfare and impressions of progress do not coincide. Material factors are only conditions of progress. Wider human progress is influenced by other factors. Bentham, for instance, proposed the principle of utility as the basis for his scientific edifice. But since some men find their happiness in asceticism, why not consider such behaviour? No doubt because ascetics are relatively few. But their mere existence shows that increased welfare alone does not justify belief in human progress.

Since progress is always relative to a subjective state, its two forms are closely related. Human progress may depend on economic progress. But economic progress cannot cause human progress. It acquires significance only if prepared for by previous human progress.

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[1] Cf. C. Gini, 'La comparabilité dans le temps et dans l'espace des évaluations du revenu national', *Économie appliquée*, Jan.-Feb. 1952, p. 7.

[2] Cf. H. Somers, 'Dépenses publiques et bien-être économique', *Revue de science et législation financière*, Jan.-March 1951, p. 6.

We now examine the idea of relativity in relation to the passage of time.

Can the sequences which have yielded progress today maintain it in future? Can progress continue indefinitely? Does it not become more difficult to maintain the longer a given rate of increase has already lasted? To consider human repercussions of economic progress let us consider three points.

Does Lasting Progress Cause Changes in Human Behaviour?

Nothing economic can be enjoyed without paying for it. If there is progress in welfare there is also, somewhere, progress in hardship. To know whether there is lasting progress we must construct a balance sheet, both of absolute magnitudes and the speeds of increase of enjoyments and costs.

Consider first the dynamic costs of progress. Any increase in welfare assumes an increased flow of investment which must be compared with the flow of consumption. These flows are not homogeneous. All investments have a cost aspect at first; only later can they increase welfare. Initially they may even reduce welfare. An increasing national income has only increased today, humanly speaking, if it means increased consumption. There is always an antinomy between the sacrifice required today for tomorrow's progress and that progress itself. If such sacrifices do not prevent essential present needs being met, there is no danger of conflict. But this depends on traditions and on the environment. Here is a new choice: how to distribute enjoyments and costs between present and future. If we ever considered progress itself as the supreme end, would we not tend towards a dangerous sacrifice of the present? Is it truly human to put progress before happiness, like an end in itself? Everyone must reply in his own way, but clearly the 'dynamic' evaluation of the costs of progress according to future time-periods conditions the pace and nature of progress. Nor is this all.

Next, consider chronic costs of economic progress—costs arising from irreversible changes in the social structure, caused when growing wealth changes traditional behaviour. In a backward society the proportion of goods obtained by exchange represents a small percentage of total consumption. As society grows, it becomes more diversified, and the zone of 'gratuitous exchange' declines. If progress reduces prices and makes enjoyments accessible to even the poorest, everything acquires a price. No doubt some enjoyments elude the grasp of figures. There may well be, even in most progressive societies, certain components of welfare impossible to express in figures—for instance, cultural satisfactions. Nevertheless, the increase of the commercial at the expense of the gratuitous zone represents a human cost.

An even heavier, more truly social, cost is incurred through the displacement of populations caused by economic progress. Is this continual, irreversible, addition to 'chronic' cost in fact compensated by the advantages of increased 'welfare'? Measurable welfare increases, almost by definition, but within a more precarious structure.

Does a Lasting Progress Eliminate Checks to Progress?

We now enquire whether human progress may check economic progress. Faced with the human dangers of economic progress, man himself reacts and a new conflict appears—between progress and security. Economic progress may ultimately achieve human progress, but only in the long run. In the short

run, all progress represents change, and the immediate human attitude is to regard it as a nuisance. Schumpeter has excellently described capitalism as a process of 'creative destruction'. Progress is ensured by continually destroying old elements and creating new ones.

Growth demands flexibility of structure, continual and costly mutations. The reflex of human communities is to insure against the risks of change. We ought to be able to discern which are creative and which destructive risks. Unless it makes this distinction, a social security policy threatens expansion. Security involves both rigidity and equality. Growth implies elasticity to respond to unexpected challenges and inequality. Greater consciousness of these mechanisms of growth deriving from progress brings a desire for protection against growth and threatens the dynamics of the movement.

Or consider checks. Malthus showed that the pressure of population on subsistence might cause misfortunes if it continued without check. But if men become aware of it, this very obstacle might become a principle of progress. By suppressing the obstacle, we might simultaneously suppress initiative and responsibility. By allowing it to exert its dangerous pressure we maintain the possibility of progress.

Thus economic progress could stimulate human progress. A human system should not merely mean security. It should both safeguard living standards for the weak and encourage innovation by the strong. This union of opposites indicates the true attitude to the problem of progress.

Progress and the Age of the Economy

The problem of progress cannot be the same for a fully-developed and an underdeveloped economy. Let us consider underdeveloped economies. Their backwardness in development suggests that here is no antithesis between the two forms of progress. If certain basic conditions are not achieved, the human backwardness continues, but all contributions to economic development provided by advanced countries would have to be adapted to needs. Perhaps static civilizations like Islam offer greater happiness than do dynamic civilizations in the West. Perhaps the idea of expansion loses meaning when transplanted from West to East. Peoples cannot be made happy against their beliefs. We should, however, have to determine those minima below which one cannot speak of a decent living standard.

The discussion might relate progress between the most and the least developed countries. The world is not divided into non-communicating groups. Progress, both good and bad, is contagious. We must examine the role of international trade in communicating progress. Do not the dangers of declining investment opportunities or progressive unemployment diminish if we compare advanced economies with 'backward' ones? If both under-development and over-development could be corrected by new international relations, one might conceive of levelling out differences in rates of progress throughout the world.

Domination and oscillation should be analysed from this viewpoint. Domination derives from a clearly-advanced economy which has achieved economic progress. It tends to communicate the movement forced by its own development. Is this progress? We might agree if we hold a cyclical conception of progress. Short and long fluctuations are probably necessary to harmonious, balanced expansion. Do not the tensions and relaxations they reveal make

true progress possible? We should however add: only if the magnitude of the gaps, and, above all, the cyclical downswings, do not alter the essence of human nature.

We may conclude by referring to J. S. Mill, the first modern economist who theoretically related economic and human progress. Mill the philosopher finally gained the day against Mill the economist. 'Progress in general' constitutes true progress, and the stationary state seems a state of human perfection, of *freedom* from economic cares.

Mill's solution is, doubtless, extreme—a modern expression of Platonism. For Mill what is economic has only limited duration. The ideal city could be realized here and now. Man, once perfectly wise, could ignore economic problems. This view is somewhat simplified. Human problems cannot be dissociated.

First, why should world economic progress tend asymptotically towards a limit? Technical innovations always remain possible. Saving and investment have not finished their work. We must rejoice in new possibilities of expansion, yet remain conscious of the extreme human precariousness of a world already grown, yet still in progress.

To judge progress sanely, we should have to view it *ex post* from the end of time. However old the world may seem, it remains unfinished. It is the idea of time which makes it possible to throw light on this attractive idea of progress. Economists have often said, and will say again, that the end of human activity is beyond their concern. This is why economic progress is not to be confused with human progress.

We can thus glimpse the conditions preventing any long-run antinomy between economic and human progress. Economists should question again the meaning of their nomism. Just as we speak of a fundamental economy—a rational minimum valid for all economic systems, all times and all places—could we not also speak of a fundamental philosophy, an agreement on what constitutes the most universal human values? Such agreement would remove any risk of conflict between economic welfare and human 'being'.

DISCUSSION

MR. MOSSÉ thought that perhaps the distinction between 'having' and 'being' was not complete. In psychology, one found a third goal, 'doing', as an end in itself. This goal was pursued more obviously in Protestant than in Catholic countries. MR. GUITTON doubted whether this new category was needed: 'doing' was not really a third end in itself; it entered into 'being'. We could not live without 'doing'.

MR. HOFFMANN wondered what part international trade played in economic progress. Different countries had different rates of growth, different export/import quotas, and yet each country's long-run trade had to balance. Again, exports transmitted 'know-how' to underdeveloped countries. The rate of growth in all countries was in some degree dependent on techniques in the most developed country.

MR. GOETZ-GIERY suggested that notions of economic and of general progress might be reconciled by abandoning the explanation of progress in terms of global statistics. Perhaps we should study the problem in terms of statistics referring to the individual or the family? MR. GUITTON replied that he was not an admirer of global analysis; if there were disparities within the economic structure, one could not talk of general progress.

MR. RUEFF did not share Mr. Guitton's anxiety in the economic field. If he faced these same problems it was not as an economist. There might, however, be confusion because to talk of progress was sometimes to make a value judgment, sometimes merely to consider accomplished evolution. It was for the philosopher to make value judgments and for the economist to explain, not to appreciate, progress. Finally, what things did we prize most highly? That depended on ourselves. In free countries, great store was set on moral and educational factors. In totalitarian régimes, the problem was different; choice was not a matter for individuals but for the planning authorities.

MR. NIEHANS doubted whether one should define 'the' progress by linking it to general welfare. First, welfare economics would take a very long time to make fruitful judgments aboutit. Second, there were probably as many kinds of progress as quantities capable of monotonic increase. Each kind of progress should be considered separately. MR. GIERSCH, however, thought it ought to be possible to select various criteria of progress and weight them according to importance. It would clearly be impossible to agree completely about these weights; but perhaps enough agreement would be possible to measure progress by some kind of index.

MR. PAPI saw no contradiction between human and economic progress. Secular progress was self-motivating. Progress—increased happiness—would continue whilst populations went on increasing.

MR. PEYREGA thought the problem of finality was fundamental. One had to distinguish ends from means, otherwise one would confuse policy with science. We must approach the problem scientifically.

RELATION BETWEEN EXPANSION AND THE PROGRESS OF ECONOMIC WELFARE

J. J. DALMULDER

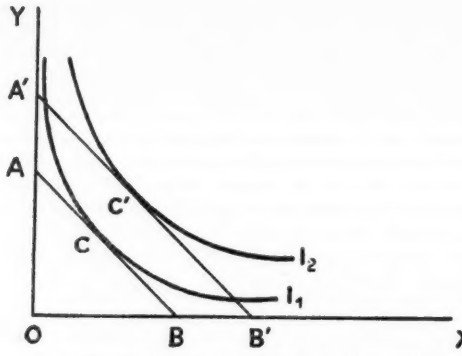
This paper seeks to answer the question: How does an increase in the output of products and services from a constant population influence economic welfare?[1]

Consider an individual consumer. By familiar reasoning, with an income, m, he will be in equilibrium at point C on figure 1 (see p. 186).
If with unchanged prices, expansion raises his income to m', the new equilibrium position is at C'. This is on a higher indifference curve than C—expansion has increased the individual's economic welfare.

The validity of these conclusions depends, of course, on the validity of the assumptions underlying indifference curve analysis, which are that: (a) tastes remain unchanged; (b) the consumer's desire is perfectly free; (c) expansion relates only to goods X and Y; (d) the consumer accepts prices and income as given. In reality, these assumptions may not be valid. There are several possibilities.

1. The consumer may like X (or Y) less than before. Thus the utility-index of a given indifference curve will increase; the marginal rate of substitution $\frac{dY}{dX}$ will decrease; a marginal unit of X (or Y) will be worth less in terms of Y (or X). The indifference curve will become flatter.

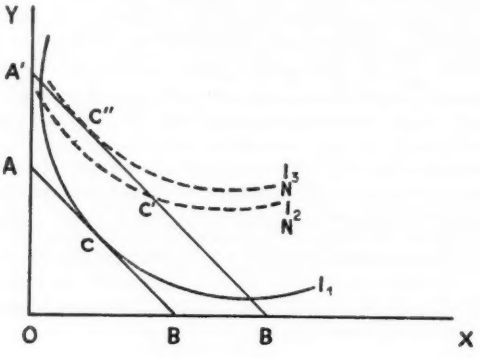
[1] To save space, it has unfortunately been necessary to omit a section of Professor Dalmulder's paper, showing the effect of progress on the supply of human effort.



2. The consumer may like X (or Y) more than before. Here the results will be exactly the opposite of those in 1.
3. The consumer may like both X and Y less, but in the same proportion. The utility-index of the indifference curve will decrease, but the marginal rate of substitution and the shape of the indifference curve will remain unchanged.
4. If the consumer likes both X and Y more but in the same proportion, the conclusions in 3 are exactly reversed.
5. The consumer likes X more and Y less than before, but the satisfaction from the original combination (at C) remains unchanged. The marginal rate of substitution will increase; a marginal unit of Y will be worth a smaller quantity of X. The indifference curves become steeper, but the indifference curve containing the given combination has the same utility-index.
6. The consumer may like X less and Y more than before, but the satisfaction from the original combination remains unchanged. The effects are the reverse of those in 5.

These cases exhaust the logical possibilities. Now the questions arises: what happens to individual economic welfare if tastes change as above?

In case 1, with the consumer liking X less, the situation is as in figure 2: Economic expansion shifts the budget-line from AB to A′B′, but the change in satisfaction substitutes indifferences curve $\frac{I_2}{N}$ for original indifference curve I_2

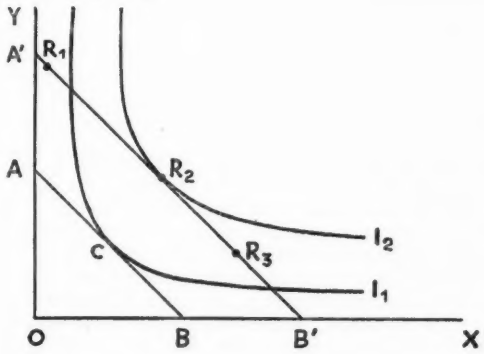


(figure 1). As A′B′ cuts $\frac{I_2}{N}$ the consumer moves to an equilibrium position at C′1 on $\frac{I_3}{N}$. It follows that the utility-index of $\frac{I_2}{N}$ is smaller than that for both I2 and $\frac{I_3}{N}$. If the decrease in the utility-index is important, then the index of $\frac{I_3}{N}$ might be smaller than that of I1 expansion need not coincide with increased welfare.

This shows our method of analysis. We may now state the corresponding conclusions for all the cases 1 to 6 outlined above. In case 1, as has been shown, it is not certain that expansion will increase economic welfare. In fact, only in cases 1 and 2 can an expansion of production coincide with a decrease in economic welfare. This coincidence is more likely in case 3, as it will happen there if the index of $\frac{I_2}{N}$ is smaller than that of I1 whereas case 1 will result in reduced welfare only if the index of $\frac{I_3}{N}$ (which is greater than that of $\frac{I_2}{N}$) is smaller than the index of I1. However, to show that expansion may provoke a decrease in economic welfare we must also show that expansion may provoke the kind of changes in satisfaction implied in cases 1 and 3. Can this happen? We define expansion as an increase in the output of products and services from a constant population. Such expansion may or may not imply quality changes. It may result in the same, a greater or a smaller satisfaction of labour. It may mean a proportional or non-proportional increase of consumption for every consumer. Each of these consequences affects satisfactions. A lower quality of goods lowers the satisfactions given by their consumption. If all goods are lowered in quality proportionally, case 3 occurs. If the quality of X (or Y) is held constant, but the quality of Y (or X) is lowered, case 1 occurs. These situations may quite easily occur, as in a sellers' or inflationary market, or during post-war reconstruction. Harder work may lower the satisfaction of labour, or even cause dissatisfaction. As a decrease in the satisfaction of labour leads to a decrease in the enjoyment of consumption of goods, such an expansion may lower economic welfare.

Again, satisfaction not only depends on the goods consumed by the individual himself, but also on consumption by others. An 'unjust' distribution of an increased output may lower an individual's satisfaction. Hence, there is a danger that expansion may decrease welfare.

Second, we consider the consequence of restriction of choice. Let us consider a consumer, who is in equilibrium, spending his income m freely on X and Y. If income expands to m' but his freedom of choice is reduced, three situations may arise, as shown in figure 3.



(a) The restriction may force him to buy more Y and less X than he would freely choose (the R1 situation). (b) The restriction does not affect his choice (the R2 situation). (c) The restriction may force him to buy more X and less Y than he would like (the R3 situation).

In case (b) expansion always coincides with increased economic welfare. In cases (a) and (c), this coincidence is not necessary. If some people are in an R1 situation and some other people in an R3 situation, a black market may develop. If, however all people are in the same R1 or R3 situation, no black market will develop, but a psychological change may increase the valuations of the relatively scarce product and decrease those of the relatively superfluous product. As a consequence, the marginal rate of substitution in the R1 situation will increase; in the R3 situation it will decrease. The psychological reaction to an R1 situation will therefore lead to a steepening of the indifference curves, and vice versa in the R3 case. This change of shape of the indifference curves may be accompanied by increased, decreased or unaltered total satisfaction. Three possibilities are to be distinguished.

In the R1 situation:

1. If the total satisfaction of R1 remains unaltered, the steepening of the indifference curve makes the difference between the enforced situation and the free choice situation more intense. This leads to a further steepening of the indifference curves, resulting in an increased difference between R1 and the free choice situation. This cumulative process induces the free choice situation to tend more and more to B′, and leads to a decrease in total satisfaction at R1.
2. If the total satisfaction of R1 is initially increased by restriction, the cumulative process outlined in 1 will in the long run decrease economic welfare.
3. If the total satisfaction of R1 is initially decreased by restriction, the cumulative process will worsen the situation.

Similar conclusions arise for the R3 situation. Summarizing we may say: restriction in freedom of choice will in the long run destroy the favourable effects of an expansion.

Third, we may note that the conclusions still hold if new goods are offered, the analysis proceeding in three dimensions and not two.

Fourth, we consider what happens if incomes and prices are not accepted. The 'Theory of Games' suggests that coalitions formed to solve distribution problems in society may lead to the kind of problem analysed above—changes in taste, restrictions on choice, etc.—with all the effects we have considered.

DISCUSSION

MR. HABERLER said that since the paper assumed that utility was not measurable, he did not see how it could show the results of changes in tastes. MR. FOURASTIÉ questioned the basis on which the indifference curves had been drawn up. He felt it necessary not only that the quantities portrayed by indifference curves should be measurable, but also that they should actually be measured.

MR. DEHEM claimed that Mr. Dalmulder had abused the traditional indifference curve technique. For example, at one point he assumed that the quality of goods changed, and then claimed that the shift in the indifference map showed a change in tastes. MR. DALMULDER replied that the two goods remained physically

identical throughout, but tastes changed. This was the same kind of problem as that tackled by Messrs. Bergson and Arrow.

MR. TRAVAGLINI wondered whether the paper could not have distinguished more clearly between short- and long-run effects, because he thought that it was impossible to adapt short-run analysis to deal with the long-run. MR. GIERSCH supported this, asking what happened if people died. One could hardly use indifference curve analysis to study people in different generations. MR. DALMULDER conceded this. But he still felt that it was worth seeing how the indifference map of an individual might change with increased production by the community, and why. However, one had inevitably to proceed entirely in terms of subjective effects on the satisfactions of an individual.

MR. DUPRIEZ noted that Mr. Dalmulder had proved that increased production did not always increase the level of satisfaction, and that was important. Perhaps the modern analyses of welfare economics could help in solving the problem, which was, after all, one of comparing levels of satisfaction rather than of measuring differences in satisfactions.

MR. ELLIS queried the assumption of constant marginal costs. If tastes changed, would not this change prices and thereby cancel out some of the loss of satisfaction? Again, in the case where the consumer liked both X and Y less, did it not follow that he must like some alternative more?

MR. HAGUE feared that some speakers were expecting indifference curve analysis to do something which it was never intended to do, and which would bring it into discredit. Indifference curves represented a useful pedagogical device but they could not solve all economic problems. There was no harm in using indifference curves to try to explain how increasing physical production altered the consumer's satisfactions. But this approach to the problem was only one out of many, and probably one of the less useful.

THE HISTORICAL EXPERIENCE ON THE BASIC CONDITIONS OF ECONOMIC PROGRESS

H. J. HABAKKUK

The historical experience considered here is primarily that of Western Europe, the U.S.A., Russia and Japan before 1914—those countries which apparently experienced marked increases in output sometime during the preceding 100-150 years. I assume that the main stimulus to growth came from industrial changes and led to consequent advances in agriculture. There is, however, no obvious reason why industry should always lead. Indeed, Adam Smith thought that 'the cultivation and improvement of the country . . . must necessarily be prior to the increase of the town'; but industry seems to have made the pace. Our main aim is to discover the conditions which favoured industrialization in these areas.

Scholars now explain, roughly, the economic fortunes of any economy; but the conditions favouring growth are so varied that a list of essential requisites seems a string of platitudes. Since many such conditions cannot be considered quantitatively, and many others cannot be measured, we may well never be able to generalize.

The main conditions which made Europe the cradle of economic advance probably originated long ago. Since early medieval times, parts of Europe exhibited an economic progress apparently unknown in other continents—although, by more modern standars, slow. This affected only part of the economy, and was for long periods retarded or reversed; but it gives evidence of favourable conditions absent elsewhere. By the early 1700's many parts of Europe already had many of the facilities whose absence is often blamed for backwardness in underdeveloped areas today. Credit, distribution, transport, relatively skilled labour and acquisitive attitudes already existed in parts of Britain, Germany, the Low Countries and Italy.

Adam Smith's explanation of the mechanics of the consequent economic advance is still the most reasonable. Given initial differences in aptitude or equipment, man's propensity to trade extended the market and promoted greater division of labour, increasing labour efficiency directly, and facilitating the invention and improvement of machines. Furthermore, as society thus became wealthier it could afford more long-lived equipment, whose capital contents was heavy in relation to its annual yield; in our context this meant primarily improved transport facilities. And the increased total demand and/or shifts in demand identified those sectors where improvement was possible, and sometimes created shortages of particular commodities, stimulating the search for new methods.

Though the working of this mechanism may have been accelerated by changes in religious views about material success, or by growing scientific knowledge, it was an autonomous mechanism. Barring destructive wars and natural disasters, the advance tended to be sustained, though not necessarily uniform, provided labour and capital were in elastic supply. Progress depended on the extent of the market, but itself extended the market; each advance created conditions for further advances, and indeed positively stimulated them; each solution of a production problem contributed to the solution of further problems. Skills and attitudes favourable to economic growth were developed. Such slow, cumulative growth avoided many problems facing contemporary undeveloped countries. Advances occurred gradually in many parts of the economy and so tended to provide their own markets. The question of rendering different industries complementary which is nowadays attempted by policy was then produced by spontaneous growth.

The generative power was provided by trade. And if Europe exhibited more capacity for economic advance than did other continents, this was fundamentally because the simple facts of geography were unusually favourable to trade and a progressive market extension; perhaps the old view, that particular acceleration of economic change in the late 1700's was mainly due to the great expansion of overseas trade in the previous 200 years, had some justification.

To explain this acceleration of economic advance, let us consider changes in the iron and cotton textiles industries and the development of steam power. These changes were made within small areas of a single country, England, and then diffused. Why?

First, state policy and social institutions in England presented less important barriers to the exploitation of economic opportunities.

1. Most continental countries attempted detailed regulation of economic life—regulation designed mainly to preserve the existing structure, and thus unfavourable to spontaneous change. Hence advance came from state-

promoted (or aided) concerns exempted from the regulations. This was not successful in promoting industrial growth—political considerations determined those who obtained concessions, and their privileges protected them from the stimulus of competition. A similar system existed in England in the sixteenth and early seventeenth centuries and was destroyed by the Civil War. In contrast with the continent, therefore, the English state did not try to prevent the discarding and replacement of old types of activity.

2. English social mobility was much greater. Many continental peasants were still subject to serfdom, and guilds were still dominant. Many people were tied to the soil; entry into trades was restricted. Thus men of relatively obscure origin, with ideas and enterprise, had greater scope in England.

Such factors were, therefore, exceptionally favourable in England, as were the size and nature of the market, on which, above all, the mechanism depended. The market for English manufacturers was large—transport costs were lower; marketing facilities better; the continent's internal tariffs, etc., absent. The nature of the market (purchasing power and tastes) was also more favourable, which was crucial when transport costs severely restricted many markets. Japan, in the 1890's could rapidly acquire a wide market by low prices; eighteenth-century industrialists could not.

1. First, average *per capita* incomes were higher than on the continent. Many people had a reasonable margin above subsistance for spending on manufactures. Expansion in individual industries was not therefore impeded by the very inelastic demand—as happens in poorer modern countries.
2. Moreover, English consumers appear to have been more prone to make active use of any increased command over goods, rather than hoard it, or take increased leisure. Many eighteenth-century writers discussed factors which would deprive the mechanism of its stimulus. The brake most commonly feared was laziness: instead of using their increased productive power to purchase more goods old and new, people would just work less, and economic advance would lose momentum. This undoubtedly happened in England, as in most countries early in industrialization. But the sector of English society with a high preference for leisure was probably smaller than elsewhere.

Both these factors depended on the importance of middle group incomes. In English society, unlike that on the continent, much of the national income accrued to people with moderate incomes—perhaps even half. The relatively great importance of this middle group was due partly to long-standing social causes, partly to forces which created large middle-income groups in all great trading centres of the pre-industrial world, and partly to the fact that English taxation was less onerous and regressive than on the continent.

3. Moreover, this large middle market was for solid, substantial goods rather than fine quality goods—for just the goods most suitable for machine production.

Obviously, the mechanism outlined above might, in favourable conditions, produce a leap in economic activity. This seems to have happened in the late 1700's, when both the primary iron and cotton industries experienced exceptionally strong stimuli to invent and adopt new methods.

These seem the main reasons why the industrial revolution happened in England rather than in, say, France. I doubt whether the English priority can be attributed to more abundant capital. Even more obviously, economic advance in this period was not due to superior supplies of labour.

There were broadly two reactions to the English industrial revolution. (a) In some countries direct imitation was stimulated, in varying degrees, by competition from English exports. The new technology was predominantly an English product, and industrialization in other countries usually meant first taking this over. (b) Elsewhere, economic growth was stimulated by an increased British demand for imports (mainly of primary products) which did not, therefore, usually stimulate rapid industrialization.

Concerning the imitators, these general observations can be made:

1. Unlike England, they had a large stock of new techniques available. But the difference here is not one of principle. It is usual for such countries to take over techniques already employed elsewhere, in order to win their home markets from foreigners. English industrialization conforms in several respects to this pattern; it starts with the setting up in England of long established industries and techniques.
2. The period of absorption of foreign techniques was very long in England, but the adoption of English techniques by continental countries was nowhere rapid. Compared with the industrialization plans of modern underdeveloped areas, Germany, Japan and the U.S.A. industrialized slowly.
3. The areas which successfully adopted the new techniques all possessed, initially, supplies of skilled craftsmen and a nucleus of initiative and organizing ability; all were rich in natural resources; even in Russia, income per head was much above that in modern India. Most had textile and iron industries similar in organization and development to the corresponding English industries before their advance. Except in Russia, skill was sufficient to present few technical difficulties in imitation; gaps in cultural standards were small. Nineteenth-century experience is of doubtful relevance to modern underdeveloped areas.

Why did some countries imitate with more success than others?

One difference lay in the different returns which new techniques offered in the various countries. The main new methods relied heavily on coal. Where coal was dear, as in France, introducing new methods would not give much scope for cost reduction. One cannot precisely assess the responsibility of dear coal, but no one has shown that French adoption of the new techniques was slower than her natural advantages warranted. Similarly, on the continent, efficiency wages were widely so low that it ought not to have paid entrepreneurs to introduce new methods whose main advantage was to economize labour. The common assumption, however, is that the main disparities cannot thus be explained.

Obvious social conditions, essential to industrialization, did not exist except in the U.S.A., and could only be established by state action. State power in each country was sufficiently strong to undertake drastic social reconstruction. Then there had to be many potential native entrepreneurs. Though in Russia, Japan and Germany the state took the initiative in developing certain industries, and this initial impetus was important, it is doubtful whether any state in the nineteenth century had sufficient resources to carry through an industrial revolution. Moreover, though English enterprise was significant in early French, German and Russian industrialization, no major industrialization before 1914 was carried far by foreign enterprise. The international mobility of enterprise was apparently low. Some native initiative was thus essential, and some countries may have had more venturesome entrepreneurs owing

to certain non-economic factors, such as national character, or social attitudes.

Thus the slow growth of the nineteenth-century French economy has been attributed to the social attitudes of French entrepreneurs. The exclusive family firm was characteristic; its motive not to maximize wealth, but to maintain a position. Even progressive firms exhibited this attitude. Again, perhaps the army and the administration attracted much entrepreneurial ability, whilst in Germany the rather exclusive Prussian military and political system took fewer potential entrepreneurs. Perhaps, also, for reasons unconnected with economic endowments, the typical German entrepreneur was better educated, and had wider horizons than the French.

It is difficult to know how important this factor was. It is impossible to test entrepreneurial ability, except by achievement, which begs the question. It may sometimes have been the major factor. But in France, it seems that the character of enterprise was primarily produced by the environment. Foreign concerns in France behaved similarly to the French, and great corporations behaved similarly to family businesses. Moreover, the family firm was common in nineteenth-century capitalism, and elsewhere proved the main agent of rapid progress.

Internal market conditions differed in types of goods demanded; degrees of homogeneity of the market, and responses to the availability of new goods. In the U.S.A. all these conditions were exceptionally favourable. (a) Primarily because new land was opened up in ways favouring a wide distribution of landownership; there was a large market for substantial, simple goods well-suited to standardized machine production. (b) Deeply ingrained traditional tastes, regional and social, were absent. In Europe, these prevented competition from more efficient firms spreading new methods and equipment throughout the economy. (c) There was little hoarding; a low value was placed on leisure.

European countries suffered in the eighteenth century from social and fiscal arrangements which made their agricultural populations poor markets for substantial simple goods. Industry tended to meet luxury demands from a small upper-class market. This persisted in Russia well after 1800. Even in France, the advantages of French industry tended to be in luxury lines. However, except perhaps in Russia, average income was, by 1850, sufficiently high to provide a market for substantial industrial goods. Industrialists did not face the highly inelastic demand which characterizes extreme poverty.

They were however unhomogeneous markets with deeply-rooted regional and social tastes, which may account for the very slow diffusion of the new techniques on the continent, and for the failure of firms which did not adapt themselves to progress more rapidly, not the ability of the workers in old industries to endure increasing misery.

This market characteristic primarily accounts for the oligopolistic structure of French industry. Why market imperfections were—apparently—less important in Germany, I do not know. Perhaps French industry was already oligopolistic before her railways were built, and could resist the pressures of falling transport costs. In Germany, industrial development came later after the railways; the pattern was less well-set. Hoarding was clearly more prevalent in continental peasant societies than in England or the U.S.A. Perhaps early in industrialization the elasticity of demand for goods in terms of effort was lower, and thus the market for manufactured goods failed to expand

as rapidly as natural resources and technical potentialities warranted.

Further, industrialization and a rapid increase in population were simultaneous. The early increase in national income was predominantly an increase in numbers of incomes, not income per head; this 'widening' of consumption certainly helped entrepreneurs.

It is striking that, though all these countries had very small savings at the start of the process, capital accumulation does not seem to have reduced consumption. Though there are no reliable figures, the extent of overseas borrowing was probably small, for example, in France, Germany and Japan. The reasons—not equally important everywhere—were: (a) all these countries, before industrialization, had substantial domestic industry; (b) initial industrialization was gradual. These countries could thus provide much of their own capital equipment, and meet the additional demand resulting from incomes created by capital investment. They did not need large foreign loans to cover deficits on current account. This contrasts with recently-settled regions, which were mostly incapable initially of producing their own capital equipment, depended heavily on imports of consumer goods, and developed very rapidly. Most of them drew heavily on foreign capital, but this is not true of pre-1914 industrialization, except in Russia.

Probably capital formation did not reduce consumption, because reserves of unused capacity could be used with relatively little additional capital—land not exploited, or not exploited fully, disguised agricultural unemployment, etc. Thus, resources for capital investment were provided not only from its own products, but also from the increase in primarily agricultural output stimulated by increased demand. Of course, sometimes, to employ these unused resources meant capital outlay; but considerable increases in yields per acre, and in effective acreage, apparently required little extra capital.

The speed and size of the response depended both on the extent of unused resources and on the agrarian structure, transport and marketing facilities, etc. The U.S.A. was very well placed, having large supplies of land developed initially to meet market needs. Her agriculture, therefore, responded rapidly to increased demand. In Europe, England was best placed, mainly because of her land-tenure system, which was much better adapted to change the character and output of agriculture. Peasant systems are relatively unresponsive, so that industrialization often involves attempts to destroy the peasantry. Perhaps differences in response did influence speeds of growth in these countries. Except for Russia, however, the response was apparently sufficient for the growth permitted by other limiting factors.

If additional output were entirely absorbed by increasing population, there would have been nothing available for capital investment. Clearly, this did sometimes happen, but not in Western Europe.

With the early stages passed, rapidly-rising real income itself provided the capital, as in mid-Victorian England and Germany after 1890.

Capital investment apparently did not reduce consumption. Was it retarded by shortage of finance, or by the terms on which funds were available? One cannot say with precision. Entrepreneurs completely frustrated by lack of funds leave no trace. Many well-known industrial figures at times faced financial difficulties, but one cannot generalize. Moreover, though first-class interest rates can be compared between countries, one can rarely obtain information about interest rate structures in different countries. One doubts whether differences in first-class security rates between areas were sufficient seriously

to influence investment. But there may have been influential differences, between areas, in lenders' assessment of industrial risks.

However, it was at first relatively easy for entrepreneurs to start projects with their own private savings, and those of friends, and to finance growth by ploughing back profits. Three remarks should be made in this connexion:

1. Existing techniques meant that the smallest technically and economically feasible unit of investment was small. This was more true in initiating countries. Imitators could take over in one step projects which took initiators several stages. Probably no nineteenth-century imitators lagged far behind the initiators, except Russia and Japan.
2. Perhaps rapid accumulation from ploughed-back profits resulted from the stickiness of wages when prices were rising. Slow entry, not for lack of capital, of new firms, may also have allowed the leaders exceptionally high initial profits. Thus entrepreneurs needed few funds from outside sources.
3. In all these areas, except Russia, there were loan markets, highly developed compared with those of the modern Middle East. Reputable borrowers could borrow at roughly uniform rates over a wide area.

There was one project typical of early industrialization, where these sources of finance were sometimes clearly inadequate—railways. Here states either built railways partly from taxation, or guaranteed interest on private entrepreneurs' loans. Some states acted earlier than others, with powerful effects on rates of economic growth; but lack of private finance sometimes accelerated rather than retarded state intervention.

Later in industrialization, there was some tendency for the smallest practicable unit to become large compared with the funds available to individual industrialists. This increases the possibility that fruitful developments suffered from financial shortages. The self-financing family firm still dominated much of European industry—including some rapidly-growing industries—evidence both for and against rating this possibility high. Less ambiguous is the evidence of great resourcefulness and ingenuity shown where funds were markedly short; witness the invention of the preference share, and the development of the German industrial banks. There may have been considerable time-lags between these developments and the needs underlying them. But on the whole the speed of adaptation impresses.

How far was economic progress affected by labour shortage? Was a certain sort of labour market a 'basic condition'? In the classical version, rising real wages were the major internal force retarding accumulation; mainly food supplies were considered unresponsive. Here are two distinct questions.

1. How responsive was population to increased demand? This is partly a question of how favourable natural resources were to expanding food production, partly a question of social structure, nature of crops, etc.
2. The terms on which the increase was made available to industry depend mainly on legal and social impediments.

Except in France, industrialization was accompanied by very rapid natural increase. It is arguable how far this was due to the effect (a) of medical improvements on death rates; (b) of higher living standards on death rates; (c) of increased demand for labour (working mainly through marriage rates) on birth rates. Perhaps the increase was primarily due to industrialization, and, in the period before labour became geographically mobile, some population-response was essential to industrialization.

The population-response varied widely, according both to elasticity of food supplies, and to general cultural patterns, age at marriage, etc. The increase was rapid in the U.S.A. and weak only in France, where wide distribution of property and equal division on inheritance tended to postpone marriage. This basic condition was easily satisfied.

More important were variations in the strength of institutional impediments to population movement. Widely distributed property rights in Europe made labour rather immobile. Probably the main early influence of this was on the gap between the terms on which labour was available to the factory and to domestic industry. In both Russia and France (particularly Russia) the relatively high cost of attracting permanent industrial labour was a major factor depriving factories of the power to drive older industries out of existence: there is no satisfactory evidence.

Was skilled labour a basic condition? The most intractable shortage was of the skill to construct and service machines, but semi-skilled operators were also short. All these countries, except Russia, had many skilled craftsmen of the locksmith type, but a very high premium on skill persisted. The problem was met partly by direct training of labour, partly by developing machinery to suit the capacity of labour. There appear to be no significant differences here between initiator and imitators. Later mechanization was more rapid and the demand for skilled labour larger; but skilled craftsmen were more easily uprooted for work in factories. The imitators drew on skilled English labour to alleviate severe shortages. Nineteenth-century industrializations experienced great difficulties not only in training skill, but in adapting labour to the exigencies of factory work. The acquisition of skills and new attitudes to work was slow, and the deficiencies of labour were a more important retarding factor than shortage of finance.

DISCUSSION

MR. GERSCHENKRON thought that Mr. Habakkuk's general approach viewed Europe as following the English model during the industrial revolution. This was a useful approach. But perhaps another approach would also make a contribution to our knowledge. In addition to stressing the unity of European economic progress, it might help to remember that there was 'unity in diversity'. If Mr. Habakkuk had laid greater emphasis on the exceptions to his model, his conclusions might have been clearer. He might have classified countries in terms of increasing backwardness as compared with Britain. One could then relate the diversity of progress in various countries to indigenous elements. Patterns of development in all countries would then fit into a complete picture. For example, pre-Communist Russia did not fit Mr. Habakkuk's pattern; but she did progress and a pattern into which she would fit was needed.

The problem at issue could be seen if one considered capital supply. Abundance of capital might be unimportant to the main lines of economic progress. But the way in which capital was provided differed according to degrees of backwardness. In Germany, the investment bank financed industrial investment and acquired an entrepreneurial role. In Russia, in the 1890's, the state used tax revenue to finance industry. Later events were shaped by these particular methods of finance. In Germany, industry became independent of the investment banks. In Russia, it was the banks which took over from the state.

Thus any pattern of analysis should not be too rigid to allow for differences of this

kind. Perhaps Russian development came closest to the development one could expect in modern backward areas. For, whilst pre-1750 Europe had much wealth and much capital, Russia had not shared in this, just as underdeveloped areas did not share the world's wealth today. A model which could explain economic progress in general, and also allow for Russian experience, would therefore be useful.

MR. MAHR said that, like all economic historians, Mr. Habakkuk defined progress in terms of increased total or *per capita* product. This was a clear-cut measurable concept, and in economic analysis, too, discussions of progress should be based solely on measurable, unambiguous phenomena. Otherwise trouble would arise. For example, was there progress if a smaller total output was more evenly distributed?

MR. KUZNETS wondered how historians tested their statements. For example, on what evidence did Mr. Habakkuk claim that fewer people in English society than elsewhere were anxious for leisure in the eighteenth century? MR. HABAKKUK replied that this evidence was found in the writings of contemporaries who were judged to be sensible and reliable witnesses. Writers like Petty were as likely to be reliable as Anglo-American productivity teams today.

MR. KUZNETS was also troubled that the discussion was entirely in terms of European history. At the beginning of the period of the industrial revolution some members of European society were quite sure that current economic performance was superior in other lands, for example, in China. We knew little about Chinese experience, but in the seventeenth and eighteenth centuries *per capita* production might have been higher than in Europe. Yet China's high standard of economic and political achievement had not led to rapid economic progress such as had occurred in Europe. MR. HABAKKUK explained that, by definition, countries, like China, which had failed to progress rapidly, did not come within the scope of his paper.

MR. KUZNETS further queried the claim that the market was the leading force of progress. What was meant by 'a market'? People with material reserves who could buy the goods made by entrepreneurs? At that stage of history, there could hardly be a back-log of purchasing power. We really meant that there must be an easily responsive economic body. The term market was a mere name used to summarize real factors.

MR. PAPI pressed the claims of state activity as a mainspring of economic progress. Demographic pressure was also often very important and might, moreover, sometimes result in development not really suited to the economy in question.

Population was also stressed by MR. KEILHAU, who thought that the concept of an 'optimum' population should perhaps be applied to Norwegian experience. Norway had probably reached its optimum population by about 1250. The Black Death then reduced the population by two-thirds, bringing poverty. When economic development revived about 1550, it occurred *pari passu* with increasing population. Again, when in the 1840's the rural areas had greater than optimum populations, emigration began. Peasants wishing to remain peasants went to the U.S.A. The remaining rural surplus population was prepared to change jobs and to join in the industrialization which then took place.

MR. DAHMÉN was not certain that agricultural advance in activity was always a response to industrial changes. Innovations in agriculture had sometimes changed the attitude of the population to economic change in general, and paved the way for industrialization.

MR. HOFFMANN suggested that in discussing differences in rates of growth between countries, Mr. Habakkuk might have underestimated differences in 'productivity consciousness'. Recent Anglo-American productivity team reports all pointed to important differences in workers' attitudes in the two countries. MR. HABAKKUK agreed, but said that such factors did not account for growth *per se*.

MR. CAIRNCROSS suggested that differences between Russian and English experience were to be explained in terms of the different roles played by overseas trade. The slow, general growth in the English domestic market did not itself bring the English industrial revolution: this needed a significant expansion of markets for particular goods, with consequent shortages stimulating technical advance. Such an expansion had occurred in the export markets. The textile industries, which accounted in 1800 for 80 per cent

of British exports, had played a leading part through a funnelling of foreign demand which had no counterpart in Russia. Mr. Cairncross also emphasized the importance of an appetite for innovation, such as existed in England in the eighteenth century. He attributed this to a reaction from the religious struggles of the previous century. The same phenomena were observable even more strikingly in Scotland, where the opening of the American market at the beginning of the eighteenth century had a spectacular effect.

MR. HABAKKUK did not entirely agree. He admitted that the expansion of overseas trade was stressed in traditional explanations of the English industrial revolution, but felt that the direct effects of the increased overseas demand for English goods might be exaggerated when compared with the development of the internal market.

MR. JAMES suggested that when Mr. Habakkuk discussed the spirit of initiative in France he was confusing the two halves of the nineteenth century. Before 1850 France progressed more rapidly than Germany; stagnation began in 1850. Could the family spirit, then, be blamed for French difficulties? Before 1850, France displayed quite as much enterprise as any country. Her decline corresponded with the decline of her birth rate. Yet he wondered if the greatest entrepreneur in the world between 1850 and 1900 was not French, and his name Fernand de Lesseps.

MR. DUPRIEZ noted that Mr. Habakkuk suggested at some times that the market had expanded easily; at others that effective demand had been lacking, and that Malthusian problems had prevailed. Mr. Habakkuk's opinion that capital shortage had not seriously delayed economic progress was important and true. Lack of capital could produce important bottlenecks only in the short run.

STAGES AND SPURTS OF ECONOMIC DEVELOPMENT

HERBERT GIERSCH

This paper considers the potential analytical merits of the 'stage' approach to economic development, and the most relevant criteria for distinguishing successive stages of economic development.

THE POTENTIAL ANALYTICAL MERITS OF THE STAGE APPROACH

The idea of development was basic to most nineteenth-century thought. In economics, the German historical school emphasized: that any economic reality could be adequately explained only as a step in historical development; that the relevance of economic doctrines was limited in time and space; and that institutions and economic behaviour were subject to change. They devised stages of economic development to accentuate institutional changes, types of social and economic behaviour, and presumed laws of development, some even hoping to base predictions on such 'laws'. Critics have pointed out that (a) the simplified stages were schematic and misleading; (b) the assumed laws of development were not universal; and (c) the stages were not appropriate foundations for constructing economic theory and for reconciling history and theory. Unfortunately, the proponents of the idea failed to see

its limitations, the critics to observe its usefulness. 'Stages' represent crude tools, but they have potential merits.

The stage approach attempts to divide a process of change into phases—to convert historical into analytical time by defining a sequence of stages each of which accentuates one feature of the development process.[1] However, there are many aspects of economic change and many interacting 'laws' of economic development, the relative importance of which differs between countries. The stage approach helps us only if a sequence includes several relevant criteria which necessarily change during development. Then, if one criterion changes substantially, the economy has reached a new stage. True, the number of stages may thus become large, but this helps to reconcile short- and long-run analysis.

The stage approach oririginated as a bridge between historical and theoretical research. It failed, not necessarily because of intrinsic defects but for lack of analytical power. A fresh attack on similar lines might be more successful, for example, a stage approach modified to use econometricians' work. Much depends upon whether the theory of economic development suggests the right kind of questions. The main problem lies in the analysis and evaluation of the institutional framework and the pattern of basic attitudes. What in short-run economics are data, often become variables in the theory of economic development; indeed the comparison of the short- and long-run is a major aim of the stage approach. In a sense, it also co-ordinates research in various fields, so that the variables and criteria to be included must be 'co-operational'.

The questions need dating and must refer to identical time periods. In practice, 'cross-section studies' are required which leave no gap between short- and long-run economics. 'Neighbourhoods of equilibrium' appear the most significant data for such stocktaking. The comparison of two subsequent cross-section studies with an intervening spurt of development would show whether, and how, the economy had moved from one stage to another. A series of cross-section studies could show actual changes in the criteria and the speed and character of development.

The usefulness of the stage approach for measuring degrees of development and comparing them between countries depends on how closely the criteria adopted for the stage approach, and those implied in definitions of degrees of development, coincide. Since economic development is complex, quantitative, operational definitions of development and progress, capable of measuring a country's state of development are hard to find, but some solution is needed. Perhaps conventional weights might be assigned to the various criteria of economic progress, by which states of development could be compared. One must here distinguish states and degrees of development. The state of development can be measured by absolute achievements. The degree of development, the extent to which potentialities have been developed, is perhaps the only relevant criterion in international comparisons. On this basis, international comparisons of economic development become significant for economic policy. Perhaps by calculating the average potential productivity of investment under a well-balanced, long-period programme, one could indicate degrees of development. The addition of such indicators of economic potentialities to the criteria of stage approach would avoid biased conclusions. The maximum number of people who could earn the present average income

[1] Cf. for example, List's sequence of stages.

in a country; or the maximum average income which the present population could attain, are two possible indicators of economic potentialities.

The stage approach is useful for purposes of prediction; by including a country's potentialities one safeguards against mistakes. But one must also indicate the driving forces and brakes working in the medium run, and determining likely development in a given time-period. The state of technique should be held constant, perhaps by limiting the period of prediction to the average lag between invention and use, say 20 years.[1] This enables one to ignore the propensity to develop fundamental science,[2] which, though highly relevant for long-run prediction in advanced countries, is of minor importance in international comparisons. Rostow's other propensities must clearly be included, despite measurement difficulties.

Relevant institutional factors, including monetary and tax systems, may be considered individually or grouped. 'Quality marks', given after careful inspection, might be preferable to disregarding important qualitative factors.

INTERNATIONAL INTERDEPENDENCE IN A DEVELOPING WORLD ECONOMY

A concrete list of relevant criteria for the stage approach to economic development must admit that an individual country's development depends on both internal and external conditions. The greater a country's propensity to import, the smaller the 'economic distance' to dominating industrial centres; the smaller its artificial discrimination against foreign suppliers, the greater its dependence on, development abroad. Advanced countries tend to be dominating rather than dependent; their rates of growth and import policies influence the speed and type of development of their foreign suppliers. The greater a country's dependence upon overseas development, the less likely that its future development will equal previous development in more-developed countries. A dependent country's relative position may be very important. The roots of this idea go back very far; Ragnar Nurkse's recent observation that Duesenberry's 'demonstration effect' is also important in international relations supports this 'relative hypothesis'.

An improvement in a country's relative position in a growing world economy seems to be facilitated by inflows of efficient factors of production and by favouring lines of production with external economies and long-run prospects, but whose short-run growth is hampered by comparative costs. Tariffs hold back factor price equalization and tend to substitute factor movements. This may promote development in less advanced countries and equalize 'degrees of development'. But tariffs may also weaken international competition. There must be an 'optimum' height and duration for any tariff which would maximize its net positive influence on a country's speed of development. We now consider world economic development since the industrial revolution, and accentuate the spatial aspects of industrialization.

Professor Predöhl's approach suits our purpose. Predöhl distinguishes three phases of world industrialization. Though stressing different aspects, he associates his first phase (integration) with Schumpeter's first Kondratieff (1787 to 1842) and Sombart's early capitalism; his second phase, expansion,

[1] Cf. S. C. Gilfillan, 'The Prediction of Technical Change', *The Review of Economics and Statistics*, Nov. 1952.
[2] Cf. W. W. Rostow, *The Process of Economic Growth*, New York, 1952.

(from 1850 to 1931) with Sombart's high capitalism and (probably) the second Kondratieff (1842 to 1898); the third phase, intensification, with Sombart's late capitalism and (largely) with Schumpeter's third Kondratieff.

In the first phase, one industrial gravitation field is formed in Western Europe, which rearranges the territorial division of labour between belts of decreasing intensity of land-use around the centre. There is a 'uni-concentric' world economy.

In the second phase, the industrial system expands both in Europe and America, with improvements in transport which facilitate westward migration, agricultural trade from America to Europe, and a reverse flow of capital. New industrial centres tend to emerge on the periphery of any gravitation field, wherever, with dense agrarian population and ample labour, coal and ore can be profitably combined. It is the combined movement of skilled labour, capital, entrepreneurship and knowledge into an area with great potentialities which favours the predominant growth of the North American core. At the end of Predöhl's second phase there are two industrial gravitation fields and a bi-concentric' world economy.

Predöhl's third phase occurs because new fertile land ceases to be freely available. Large-scale migration ends and territorial expansion of industry gives way to intensive growth. Predöhl thinks this change explains the severity of booms and slumps and also increasing government intervention. The third phase is characterized by the centrally planned, almost autarchic, growth of a third gravitation field in the U.S.S.R. A 'tri-concentric' world economy results.

Predöhl says nothing about the 'law of prediction' implied in his argument; perhaps this is pressing his argument too far. His phases depend on two criteria: gravitation fields, and the nature of spatial development. There is no evidence that the world cannot support further industrial cores. China and India are among the candidates. In lands like Australia, the basic problem is migration. This might be solved. The character of industrial development seems to depend upon whether free land is available. The theoretical argument concerning the influence of land-intensive growth on industrial development would run:

Land-intensive growth, with increasing population, tends to shift the commodity terms of trade in favour of food; land-saving innovations shift them in favour of manufactured goods. A shift in favour of agriculture raises rents in terms of manufactured products, lowering real wages and capitalists' incomes. This has two effects:

1. Effective demand for manufactured products increases or decreases according to whether increased rents accrue to a spendthrift aristocracy or to thrifty peasants. Lower effective demand for manufactured consumers' goods may retard or stimulate industrial developments depending upon whether the latter is limited by a lack of effective demand, or of savings to finance autonomous investment.
2. Rising rents may lower the rate of profit and the inducement to invest. Land-producing innovations (like steamshipping) stimulate territorial expansion in new countries and tend to raise investment beyond current needs. The exhaustion of such investment opportunities certainly creates difficult adjustment problems, perhaps even prolonged depressions. But it matters little whether or not land is available free. Land has rarely been free, and Predöhl's criterion for the beginning of his third phase looks like a confusion between money price and price in Wicksteed's wider sense of 'the terms on which alternatives are offered to us'.

Nevertheless, the emphasis did shift to land-intensive growth when the opportunities created by steamships and railways were gradually exhausted. Predöhl seems to believe that since it was dependent on free land and on liberal capitalism this period of territorial expansion cannot recur. I feel that the relative importance of extensive, as opposed to land-intensive, growth depends mainly on technical progress in transport and communication. The next Kondratieff might be characterized by air transport, which might favour the flow of resources to those countries whose basic problem is immigration. Present institutional or political obstacles may change on such a long view.

CRITERIA AND VARIABLES FOR IMPLEMENTING THE APPROACH

The way in which statistics are collected, and growing government intervention, force us to apply the stage approach mainly to countries. The criteria of economic development are most usefully based on units of population and space. The economic development of a people may be defined as an increase in *per capita* output and *per capita* wealth. Economic development of a country is defined by an increase in output and in capital per unit of land area; that of a national *economy* by economic development of the population and the country.

Hence we have four definitional criteria of national economic development:

1. National income *per capita*, including income from foreign investments.
2. National wealth *per capita*, including capital invested abroad.
3. The country's geographical product per unit of land area—the product of factors of production available within the country whether domestically owned or not.
4. National capital per unit of land area, defined similarly to the country's geographical product.

Some difficulties in comparing these criteria are: (a) Comparisons of *per capita* income and wealth must be supplemented by comparisons of inequalities in the distribution of income and wealth. (b) The broadest definition of wealth and capital (including household capital, capital invested in education, etc.) is most significant. (c) Differences in items like non-money income or climatic conditions should be considered.

Our main interest here is in the structural changes accompanying economic development. Industrialization is the modern form of expansion and progress, and, in its widest sense, implies (a) mechanization; (b) increased division of labour—specialization. But one should remember that the 'industrialization' of agriculture and mining, through mechanization rather than specialization, may be almost as important as the industrialization of manufacturing. Even in tertiary production there has been increasing specialization and mechanization in transport, in the retail trade, in public administration, etc.; the mechanization of the household: and increasing manufacture of food. Mechanization is a special form of the division of labour, implying both the replacement of human effort by non-human energy and the use of mechanical devices representing indirect labour. We may, therefore, indicate a country's level of industrialization by (a) the level of mechanization of production and (b) its 'roundaboutness'.

The level of mechanization is shown by consumption of non-human energy per man-hour. Various measures of the roundaboutness or capital-intensity of production have been suggested; none is generally accepted:

1. Marx indicates roundaboutness of production by the organic composition of capital—the ratio of capital consumption to the wage bill.
2. Mrs. Joan Robinson suggests capital per man employed.
3. Messrs. Hawtrey, Harrod and others prefer the capital-output ratio.
4. Mr. Kaldor favours the ratio between the 'initial cost' and the 'annual cost' involved in producing a certain stream of output; 'annual cost' including both replacement charges and the cost of co-operating labour.

Indices 3 and 4 give identical results if the rate of profit is constant; if that rate increases, index 4 indicates a relatively greater capital-intensity. A disadvantage for long-run analysis and for measuring the roundaboutness of production is that both measures compare two interrelated values. For example, if 'neutral' technical progress exists during economic development, and the rate of profit is constant, neither of the ratios changes. Capital per employee is superior here, since the denominator is a physical unit; but, like indices 3 and 4, this fluctuates with the degree of use of equipment. Here ratio 1 is superior, though it fails to show an increase in the durability of capital goods as an increase in capital intensity, whilst the alternative measures do. Index 2 seems to have fewer disadvantages for our purposes. Different degrees of capital utilization can be eliminated by comparing periods with similar employment situations. There can be no doubt that the Marxian 'law' of increasing organic composition of capital (increasing capital per man employed) is historically correct.[1] The operation of this law may be manifold. Capital per head of working population may increase (a) because capital per worker increases in all industries; (b) because there is a relative expansion of industries using more capital per worker; (c) because, although capital per worker declines, there is a sufficiently strong relative expansion of capital-intensive industries.

Capital per worker may, however, fall, though in each industry capital per worker increases, through the relative expansion of industries using little capital. Such a development is hardly retrogressive; so the index may break down unless rescued, by including (in capital) intangible capital in the form of education, etc.

Capital per worker does not tell the whole story of industrialization. It must be supplemented by an index of mechanization and by an index showing the relation between various lines of production. Colin Clark, for example, believes that' the proportion [of the working population[2]] engaged in commerce and finance appears to be a fairly precise measurement of the degree of economic advancement'.[3] A decline in the proportion of workers engaged in agriculture is both necessary to industrialization in manufacturing and transport, and a result of the industrialization of agriculture and the low, declining, income-elasticity of demand for food. There seems to be, in most countries, a period during which the proportion of working population engaged in manufacture increases. This period has apparently ended in Britain (after 1850), France and Belgium (1900), Germany and Switzerland (1914), and the U.S.A. (1920). In countries like Canada, Australia and Russia, this stage has not been passed. The increasing relative importance of tertiary production, as economic development proceeds, probably reflects the increasing division

[1] Cf. Colin Clark, *Conditions of Economic Progress*, 2nd ed., p. 501.
[2] Author's addition.
[3] Ibid., p. 397.

of labour and its need for commerce, transportation, financial services, public administration, etc; increasing expenditure on education, research, travel and entertainment; and the fact that these services only permit limited mechanization.

Despite such changes, absolute increases in industrial production remain basic to material advance. Spurts and retardations of economic development largely originate in secondary production, which is why ratios indicating the structure of secondary production are so important. It has long been recognized that the changing vertical structure of production, the 'lengthening of the period of production' and the 'deepening of capital' pose the main problem. Thinking in aggregates, or applying capital-output ratios to whole economies, clouds the issue. 'Economic progress has to a large extent been conditioned by the fact that an ever-increasing proportion of the available productive resources has been devoted to earlier stages of production. New stages have been added or interpolated with the result that the vertical structure of production has been elongated.'[1]

In practice, one cannot discern these stages exactly, but certain industries clearly belong primarily to lower stages, others to higher ones. One can distinguish two main types of manufacturing industry—consumers' and capital goods industries. The ratio between their net value added represents a rough index of industrialization. Professor Walther Hoffmann[2] has measured this ratio in several countries and based his stage approach to industrialization on it.

Among consumption goods industries he includes food manufacturing; textile and clothing; leather goods; furniture. The capital goods group comprises iron and steel, including iron and metal products; machinery; vehicles; chemicals.

Hoffmann's ratio between net value added by the four consumers' goods industries and by the four capital goods industries is taken as an index of levels of industrialization. The implied 'law of development' is that as a country becomes more industrialized the ratio declines from a high figure to a figure less than one. Hoffmann distinguishes stages of industrialization from typical values of the ratio. Perhaps the ratio over-emphasizes the deepening of the structure of production because (a) important consumer industries (e.g. agriculture) are excluded; and (b) some output of the 'capital goods' industries represents consumers' goods (e.g. private cars). Nor does the ratio show the share of gross investment in gross national product, or allow for foreign trade. Nevertheless some tentative conclusions emerge:

1. The ratio always declines during industrialization. Despite increasing domestic demand for existing consumers' goods, capital goods industries expand relatively.
2. This relative expansion of the capital goods industries varies between countries and between phases of industrialization:
   (a) Among countries which industrialized early, the ratio has declined fastest since 1900 in the U.S.A. and most slowly in Switzerland and Britain; assuming that all these countries had roughly the same ratio when their industrialization began. This is due to the great difference in raw material supplies between the U.S.A. and Switzerland and

[1] G. Haberler, *Prosperity and Depression*, 3rd ed., Lake Success, 1946, p. 39.
[2] Walther Hoffmann, *Studien und Typen der Industrialisierung. Ein Beitrag zur quantitativen Analyse historischer Wirtschaftsprozesse*, Jena, 1931.

because, in Britain, foreign demand favoured consumers' goods industries as long as Britain's principal trading partners did not industrialize.

(b) Among countries which industrialized rather later, the ratio has declined fastest in Canada, Australia, the Union of South Africa and New Zealand. Canada has now the same ratio as countries of early industrialization (about one).

(c) Though evidence is scanty, it seems that in countries like the U.S.A. and Britain the decline of the ratio has been interrupted by temporary increases. Spurts of economic development and periods of retardation and recession have alternated during industrialization.

DISCUSSION

MR. KUZNETS asked what the stage approach implied for constructing a theory of economic growth. As he understood it, one had a chronological sequence of time periods characterized by three criteria. First, there was increasing economic performance over the whole sequence. Second, any given period was characterized by particular features which gave way to other features in the following period. Third, there was an element of invariance in the succession of changing characteristics. He wondered whether this approach ultimately led to a different goal from that reached by studying changes in the economic structure and finding how secular growth occurred. In particular, why should there be an unvarying relationship between successive stages? Surely the actual sequence depended on consumers' demand and on technical progress?

MR. GERSCHENKRON defended the idea of stages. It was crude, but there were so few tools of analysis. The stages could summarize our knowledge of development in different countries and at different times. For example, the paper showed that countries which began to industrialize later displayed more rapid changes in capital-output ratios than those which began earlier.

MR. GIERSCH expanded his views. If one analysed economic growth in terms of only one criterion, one might overlook important developments, both past and future. This was one reason why the German historical school's stage analysis had failed. We were at present in danger of over-emphasizing national income. There were several other criteria implied in the term economic development; for example, capital per head or per unit of area. One must also include structural changes, like those shown for manufacturing industry by Mr. Hoffmann. Again, the proportion between consumer and producer industries was important; it showed how far a nation was likely to withstand cyclical fluctuations. Criteria indicating institutional changes were also required, and, since institutional change could only be indicated in a rough way, one had to divide the process of development into different phases.

Perhaps some criteria might become unreliable indicators after a certain stage. Capital per head, for instance, might fall as tertiary industry expanded. The complexity of the various stages meant that comparison of degrees of development raised serious index number problems. Again, the need to combine the level of income and its distribution in the same theory, so as to discover the level of welfare, raised difficult problems of weighting and of value judgment.

MR. FOURASTIÉ thought that, in studying stages of economic progress, great attention should be paid to the 'scientific spirit'. It was said that new machines and processes were invented because people wanted to buy and sell goods. He did not agree. It was only because people like Descartes and Newton had made fundamental discoveries that people had thought of using scientific developments commercially. There was no economic development in China after 1750, or even before, because there was no

'scientific spirit'. A nation with the right scientific attitude could become very interested in experiment and invention. Without it, there could be little progress. MR. GIERSCH thought criteria like the 'scientific spirit' could be included in the analysis. But the number of criteria considered by any theory of progress should be as small as possible.

MR. PEYREGA wondered whether the stage approach could throw light on the transition from an agricultural to a commercial society, and, more especially, from a commercial to an industrial one. Perhaps underdeveloped countries had reached a barrier which was hard to cross; and perhaps a study of advances from the commercial to the industrial stage would throw light on the nature of this barrier. The existence of money savings was not sufficient if these were not used for investment. We needed to explain why commercial profits in some countries were used to build up industrial activity. Why did Holland, a far more commercial nation, fail to industrialize when Britain did? Perhaps an important need was for a well-developed market to provide commercial profits from which industrial capital could be built up. Or the crucial need might be psychological.

Finally, MR. KUZNETS asked how Mr. Hoffmann's statistical data related to capital accumulation in general. These figures, based on particular industries and calculated in current prices, suggested that as national *per capita* production rose, the ratio between capital goods output and consumer goods output ought also to rise. In fact, in advanced economies this proportion was in several instances lower than in poorer countries. This suggested that Mr. Hoffmann's conclusion, based on the experience of manufacturing industry alone, was only partially correct. MR. HOFFMANN agreed that manufacturing industry produced only a small proportion of total national product but this share was increasing. Again, the proportion of saving to national product was roughly constant. There was thus no conflict between a rising proportion of capital goods industries and a constant savings proportion.

TRENDS IN THE ALLOCATION OF RESOURCES IN SECULAR GROWTH

W. W. ROSTOW

This paper studies how to analyse the relation between general economic growth and growth in particular sectors. This becomes a consideration of the relation between overall growth in, say, real income and the pattern of investment.

I pursue the analysis rather beyond the interim point reached in *The Process of Economic Growth*. I there established these propositions:

1. An economy's overall growth is determined by a group of yields and a group of propensities; the yields represent possible rates of return from exploiting known natural resources and the available scientific stock; the propensities represent the effective will of society to act on the yields which determine growth.
2. With given yields and propensities—perhaps varying in different sectors—there exist equilibrium levels of output, capacity and technique for the various sectors, and an equilibrium composition both for new and for total investment.
3. Although this concept of equilibrium may be useful *ex ante* for limited

periods, it has an evident reality *ex post*; cleared of cycles and trends, past overall and sectoral growth follows shapely patterns of deceleration and reflects the interplay of the yields and propensities.

4. Business cycles arise from differences between actual and optimum investment patterns. In each boom, capacity in certain key sectors is expanded beyond the point appropriate to the rate of growth.
5. Trend periods arise from more substantial differences between actual and optimum investment patterns, primarily due to wars or periods of extensive agricultural expansion, which alter relative prices, income distribution, interest rates, and the character of profitable investment opportunities over several cycles.

This paper refines the argument of the first three propositions. Examination of growth in different economies reveals two facts: growth rates in various sectors differ widely in any time period; overall growth appears to depend on the consequences of rapid growth in key sectors.

Investment patterns in cycles and in growth may be symmetrical. In both, certain leading lines of investment seem to drive the whole economy forward.

This notion of leading sectors is familiar enough, typified by the role of the cotton industry in sustaining British growth from, say, 1780 to 1840. When cotton decelerated, the rail booms of the 1840's and 50's made pig iron important. Steel became a leading factor by 1880, then, successively, the chemical, electrical, and light-engineering industries.

American economic history, more compressed in time, also displays this sequence of leading sectors. Even more sharply than in Britain, the western railroads, from 1850, induced by world wheat demand, launched American industrial evolution, creating a centralized iron industry, and a steel industry. Then, as elsewhere, were developed chemical, electrical, and light engineering industries, with a unique role for automobiles and consumer durables.

Similar growth sequences occurred both in major industrial economies—Russia, Germany, and France—and in more specialized economies, such as New Zealand and Sweden. New Zealand's growth, begun in the 1860's by gold, was sustained by wool, wheat and dairy products. This led to industrial development. In Sweden, similarly, timber in 1860-70 gives way, with Sweden's strong propensities, to rapid growth in pulp and paper towards 1900. The extraordinary rise of iron ore exports from 1890 leads on to the modern metal and engineering industries. In both countries exports, including their transport requirements, encouraged secondary development of domestic industry.

Leading sectors need not, then, repeat the pattern of Great Britain. They may depend both on effective exploitation of natural resources to meet world demand and on breakthroughs in applying science commercially.

In industry, growth since 1750 appears to have been based on a finite number of major technical innovations on which leading sectors, like textiles, metals, engineering, chemicals, are based. Especially in Britain, each innovation was fairly fully exploited as it became a realistic possibility, although Germany and the U.S.A. enjoyed some advantages as relative latecomers. The early application of such technical breakthroughs meant radical changes in production functions, and yielded a high return to investment; further refinements appear to have yielded diminishing returns.

Ignoring other factors, overall growth rates have been partly determined by the date of these major applications of technique. Japan and Russia have

recently been exploiting more rapidly the accumulated backlog of technical possibilities, and this virtual simultaneity of growth in leading sectors is one explanation of their high overall rates of growth. Yields from applied science have been higher for latecomers, who were able to exploit simultaneously the early, high-productivity stages of both past and current technical breakthroughs; whilst older countries enjoyed the high-productivity stages of only the latest ones.

If, at particular periods, different sectors play a strategic role in determining overall growth, how can we analyse this inordinately complicated process in tolerable order?

I tentatively suggest an arbitrary threefold division of sectors:

1. Primary growth sectors where possibilities for innovation or exploiting newly profitable or newly discovered resources yield growth rates markedly above the average, e.g. British cotton after 1780.
2. Supplementary growth sectors where rapid advance is a direct response to, or requirement of, advance in primary growth sectors. For example, if the Western American railways were a primary growth sector, the rapid growth in iron, coal, and steel would represent supplementary growth.
3. Derived growth sectors where advance bears a fairly steady relation to growth of real income, population, industrial production or another overall, modestly increasing, parameter. Complex links may exist in this category. A sector that has experienced rapid growth may settle down to relative stability.

Roughly, primary and supplementary sectors derive their high momentum from changes in cost and supply, partially influenced by demand; derived growth is linked essentially to demand changes, though subject also to continuing less dramatic changes in costs.

The arbitrariness of these categories and the complexity of applying them is obvious. First, how can one establish empirically a 'primary growth sector'? A definition in terms of ultimate causality makes the problem insoluble. The Western American railways were a primary growth sector in 1850-85. They, in turn, were induced by an increased price of wheat, reflecting an increased European population. In turn, this rise in population has its own causes. While it is extremely important to recognize such causal chains, it is still possible to isolate those sectors where exploitation of innovations or development of resources yields creative results. If we accept some arbitrariness over causation, 'primary sectors' can usefully be defined.

While one expects higher growth rates in primary sectors, simple examination of growth rates does not identify them. Certain supplementary sectors may have higher growth rates than primary ones. It is the qualitative nature of the primary sector which defines it.

There are also some puzzling complexities of identification. A given sector may contain both primary and derived elements. The growth of the modern oil industry reflects both the exploitation of new techniques and a high marginal income-elasticity of demand. Such dual forces may not be independent over a given time. A fall in price due to cost changes can shift irreversibly the position and slope of the demand curve. These difficulties are unlikely to prevent meaningful identification of leading sectors.

A further weakness in conception is the fundamentally interacting characteristic of growth. Wheat lands may bring railroads, railroads iron and steel; but railroads, once built, generate endless further developments. For instance, a steel industry devoted heavily to manufacturing rails may generate the

applications of steel to bridges, ships, machinery. The analysis of external economies on a macro-basis is complex; but the successive application of such external economies to limited time periods may clarify both past growth and its future planning.

Technically, this approach might unite various independently developed analyses. First, historians have investigated how major new possibilities were developed and primary growth sectors created. An understanding of this cannot ignore both scientific and technical history, and human, institutional and market environments. Second, there are those studying the functional relations between sectors of economies, above all, Professor Leontief and his colleagues. Their measurements may permit analysis of supplementary growth sectors. Third, this approach might permit empirical investigation of a useful version of the accelerator, by explaining the relation between overall growth and requirements in the slower-moving sectors.

This approach would break into the growth process at the key-sector level. For limited time-periods it would consider primary and supplementary consequences of growth in key sectors, and track out responses to the increased real income thus generated; responses to growth forces determined by more remote factors like population changes; and external economy effects and changes in the propensities.

In general, business cycles are best regarded as direct and secondary consequences of surges in certain leading lines of world investment. In each cycle the direction of these leading lines appears rational. But the scale of investment is somewhat irrational; if individual investors had known in advance the combined effect of their decisions they would have invested less in the leading lines. Thus, from cycle to cycle, the leading lines change. Over-expansion in booms exhausts a sector as a leading line.

How do such leading lines in cycles relate to our three types of growth sectors? The two clearly cannot be simply equated. While high investment may continue in a leading growth sector for several cycles, this sector is unlikely to dominate successive booms. Investment may shift from a leading industrial sector (cotton textiles) to a supplementary sector (cotton acreage), to an induced sector (housing). No such pleasing symmetry of sequence can be found in modern economic history. The leading lines in a cyclical expansion have depended on where profit is believed to lie; profitability may be created in a supplementary growth sector by a prior disproportionate expansion in a primary growth sector, and so on.

There is thus no automatic equivalence between the profitability of an investment and the maximum real rate of return, in terms of effects on growth. This has long been recognized. Where, for example, railroads and other public improvements promised important secondary advantages, not imputable to the private investor, governments have stepped in. More generally, the pattern of free consumer demand does not necessarily result in patterns of profitability and of investment which maximize rates of growth.

Such shifts in the structure of profitability may explain why overall growth rates sometimes vary although the total proportion of income invested appears stable. Investment in different sectors may have differing effects on output. For example, the discontinuity in the rate of growth of U.S. real income *per capita*[1] depends on changes in the character and productivity of investment.

[1] Cf. S. Kuznets, *National Income: A Summary of Findings*, New York, 1946.

Conceived thus, the capital-output ratio becomes extremely complex. The time relationship between a given investment and output depends on at least three elements:

1. A shift to investment with a longer gestation period may, over a short period, impart an illusory increase to the capital-output ratio.
2. A shift to investment goods with longer lives increases the capital-output ratio. Studies of changes in the capital output ratio should consider both changing lives of equipment and changing degrees of capital intensity.
3. The secondary and more remote influences of any investment may be decisive to the growth process, although at present incapable of measurement.

Clearly we have hardly begun to organize our knowledge of the relative productivity of various types of investment so as to help analyse economic growth.

These observations may also bear on policy prescription. Professor G. P. Kindleberger has suggested[1] that more rapid economic development may depend on isolating strategic points of attack. Does our sectoral approach help in defining such strategic sectors—sectors where additional investment yields maximum increases in output? We might try to identify leading growth sectors in underdeveloped economies, where effort concentrated on key sectors might drag along the supplementary sectors; and induce general expansion. The identification of leading sectors is not simple. A supplementary sector for the world may be a leading sector for a country. The strategic point of concentration may thus lie not in exploiting a sequence of industrial innovations, but rather in progressively developing a natural resource.

Moreover, one may end up with a problem of social and political policy—of increasing the strength of the propensities. Accelerated economic growth in many areas depends not on discovering natural resources or potential innovations, but on lowering birth rates, on finding risk capital, on developing and improving political leadership and institutions.

When growth in a sector is obstructed by propensities rather than yields, concentrated action may appear inappropriate. Yet concentration of effort in key sectors may be necessary. In short, a sense of the possibilities of exploiting self-reinforcing processes, by stimulus to strategic points, might suffuse economic growth.

DISCUSSION

MR. MILLIKAN, leading the discussion in Mr. Rostow's absence, doubted whether the stimulating concepts of primary, secondary and derived sectors could be given concrete content. What kind of empirical data could isolate the primary sectors, which 'lead off the growth process', and induce growth in derived sectors? He was not sure whether Mr. Rostow's basic distinction depended on whether the impulse came from the cost or the demand side. Why should the former be more significant? Again, the invention of new goods raised complications. One could hardly call the invention of the motor car 'a fall in the cost of transportation in general'.

In a sense, of course, primary sectors were causally exogenous. It was almost im-

[1] *Review of Economics and Statistics*, November 1952, p. 391-4.

possible to isolate those cases where a technical innovation came entirely from outside the system. Again, sectors changed their category. Housing must at some times have been a secondary sector, and at others a derived sector; steel was probably sometimes derived too. On the whole, however, he welcomed Mr. Rostow's distinction. If it led people to try to separate the various sectors, it would begin a move towards a useful goal.

MR. CAIRNCROSS thought the division into growth sectors was not very useful. Mr. Rostow was trying to find the mainsprings of changes in the economy. But in practice there were many links between the parts of the economy. The chain of cause and effect was so complex that it was doubtful whether anyone would be able to make a division into Mr. Rostow's sectors.

He also queried Mr. Rostow's suggestion that the benefits of any particular technical innovation were reaped more slowly now than formerly. In the U.S.A. and the United Kingdom the benefits of the steam engine had not been exhausted until 1900 at the earliest; in the whole world, the steam engine might not even yet have yielded its full fruits. If by an invention one meant the discovery of something like the steam engine, rather than one of the series of developments leading up to it, one could not say that its possibilities had rapidly been exhausted. Finally, Mr. Rostow seemed to overemphasize capital accumulation as the mainspring of growth, and to suggest that one should look at past investment to analyse the problem. Surely innovations were very important too.

MR. MILLIKAN, though he obviously could not speak for Mr. Rostow, agreed himself that the emphasis on primary sectors was not very useful. Nor was he happy on the question of how soon an invention ceased to yield increasing productivity. Mr. Rostow's reply might be that it was not so much a question of the impact effect spending itself rapidly as of profitability falling rapidly. Or perhaps a new 'technical breakthrough' brought more developments in the early stages. But MR. MILLIKAN thought Mr. Cairncross wrong in arguing that Mr. Rostow overstressed the importance of capital.

MR. HICKS noted an important difference between Mr. Rostow's approach and the analysis by sectors suggested in the Domar-Cairncross discussion. Mr. Rostow seemed to regard sectors as useful entities for growth analysis because they were causal elements. This was unnecessary. Sectors were merely units in a process we were trying to describe. No one sector was causal any more than any other. In particular, the sector most influenced by any invention was not necessarily primary.

MR. HABERLER's difficulty arose from Mr. Rostow's lavish use of propensities. He realised that historians were often told to use more theoretical tools, but it was a little odd that at a time when theorists were becoming sceptical of the usefulness of supposedly stable propensities, historians were beginning to use them. Was there really much to be gained from using a 'propensity to apply science'? Might one not assume what one wanted to prove? For example, if one said that the propensity to apply science was high and investment therefore great, was that not circular reasoning? MR. MILLIKAN thought this related to Mr. Rostow's book rather than to the paper. But even the book did not really depend on propensities. They were merely a formal way of introducing factors which everyone discussing progress would mention as important.

II. ECONOMIC PROGRESS IN UNDERDEVELOPED AREAS

TECHNICAL KNOWLEDGE AND MANAGERIAL CAPACITY AS LIMITING FACTORS ON INDUSTRIAL EXPANSION IN UNDERDEVELOPED COUNTRIES

C. N. Vakil and P. R. Brahmanand

The rate of a country's economic development depends on many complementary factors; deficiencies in any of these may slow down or even inhibit economic growth. Underdevelopment is often attributed to a low rate of capital accumulation; certainly, shortage of capital compels changes in technique and organization so that existing resources can be used to best advantage. Technical knowledge and managerial capacity are both necessary and complementary. Mere technological knowledge is of little avail; managerial efficiency in an underdeveloped economy in large part determines whether full advantage is taken of new techniques. The more efficient management is, the greater the demand for technical knowledge.

The essence of technical progress is to reduce the volume of resources needed to produce a given output. The relative efficiency of different technical developments thus depends upon how scarce the resources saved are. An economy where a particular factor is scarce, or which urgently needs new techniques, calls technical knowledge to its aid. But new methods will not necessarily be found. Otherwise existing international differences in development would be less. Technical knowledge has not developed autonomously in underdeveloped countries, because certain essential conditions are not satisfied.

Technological advance can occur at various levels. It can come from experienced workers, from research departments of large firms, or from independent specialized laboratories and research institutions. How far the individual worker can himself modify known methods or invent new ones depends upon the extent of specialization. In underdeveloped economies there is too little specialization; nor does the high labour turnover allow long-period concentration. Again, whether industrial or state resources can be devoted to technical research depends on general economic development. Poor countries have no surplus resources for such long-term investment. Most firms are small and lack research departments; nor do specialized research agencies develop autonomously. The state's responsibility in developing technological knowledge is widely recognized; but since the state is poor, underdeveloped countries inevitably depend in part on accumulated technical knowledge in advanced countries.

Technical knowledge can be broadly classified as:

1. Knowledge with economic possibilities and which can be utilized in the socio-economic environment, but which is not available because developed countries will not impart it, or only on conditions. This occurs particularly

with international combines which have pioneered industrial expansion in undeveloped countries, and whose technical knowledge is closely guarded. Again, a country might industrialize without its own citizens knowing how to construct or operate particular industries. This would raise serious problems if friction caused foreigners to leave, which partly explains the attitude of underdeveloped countries to foreign capital.

2. Knowledge available on reasonable terms, but which is useless without changes in industrial organization or social policy.
3. Knowledge which is available, but which requires easy access to capital. Here, known technology is of little value, unless it develops more suitable methods.
4. Knowledge which could be used only if the country has sufficient capital. First, one must establish training institutions. But in underdeveloped economies existing institutions often cannot be used because of high training costs, uncertainty in employment, and caste or class rigidities. Expenditure on technical training is a long-term investment, which few families can afford. A literary education is preferred; those who can afford technical education usually seek it abroad. Local employers tend to prefer persons trained abroad, with unfortunate effects on home development of technical training institutions. Again, some industrialists in underdeveloped countries depend on technicians trained in their own firms rather than at universities. Apprenticeship is not common, and technical colleges do not own factories. Qualified men tend to be under-used and accept jobs where their hard-won specialized knowledge is of little avail.

The desire for higher technical education, implying great specialization, depends on both size and certainty of demand. Unless many industries are expanding, highly specialized individuals risk unemployment.

Some underdeveloped economies have powerful obstacles to labour mobility. Communities are divided into watertight compartments, perhaps by caste systems. Such obstacles persist, despite changing social opinion, largely through vested interests. Those who are better off consolidate their relatively high standard of living by preventing the flow of talent, though democracy is slowly eliminating this. It therefore takes some time for wage and salary differentials to adjust labour supplies. Pecuniary rewards cannot break the rigidities of tradition.

Even if technical schools and research organizations are successfully established, superior methods of production may not be used. It is difficult to introduce changes in countries with an intrinsic dislike of new methods. Old methods persist, despite their inadequacy; routine and inertia create an atmosphere unreceptive to new methods. Unless the need for improvement is keenly felt, superior methods are not used. This new attitude requires the individual to feel that conscious effort can substantially improve his living standards. The difficulties come from sheer conservatism; from opposition by groups whose importance is threatened by new methods; or from opposition to the economic and social consequences of such methods.

Obviously the application of technical knowledge must lead to economies in using labour. In most undeveloped countries labour is abundant. Thus, new methods do reduce costs, but often cause unwelcome unemployment or under-employment. Admittedly the savings may enable individual firms to expand output and employment, but only much later. Initially, new methods tend to create unemployment which, if population pressure is heavy, causes

serious social frictions. In fast-developing countries technological unemployment, though sometimes important, does not persist, because increased activity absorbs displaced labour. Industrial development can remedy these difficulties, but only if rapid and certain.

Again, new production methods may displace particular types of workers; for example, those in cottage industry. Admittedly, individual entrepreneurs can use superior methods, despite the dislocation and distress they cause. But, in a democracy, changes which seriously disturb the existing fabric are frowned upon. The new conception of the Welfare State sometimes prevents countries from taking full advantage of technical knowledge.

Other drawbacks of Western technology are: rapid urbanization and consequent overcrowding and slums; undue concentration of industry in particular areas; glaring discrepancies in living standards between different groups; and numerous consequent social problems. These difficulties can be overcome by expenditure on social policies; but a poor community can afford little such spending.

The socio-political environment thus tends to be unreceptive to modern techniques. There are also doubts about the practical application of improved technology. The economic unit must be large enough for the techniques to be reasonably applied. Capital must be available, also effective organization—big 'ifs' in underdeveloped economies. The unit of activity often hardly warrants applying improved methods. Co-operative farms would help; but how can they be organized? Unless industries are monopolistic, technological knowledge is unlikely to be used autonomously. New techniques need new capital.

But can present technical knowledge itself help to produce more rapid industrial expansion? Past industrial development in advanced countries suggests that technical and organizational changes were linked; and that continuously expanding markets enabled industry to absorb new knowledge, and gave it freedom, despite the economic and social disturbances involved. When public opinion had crystallized in favour of a social policy to temper adverse effects, these countries were already highly developed. In most underdeveloped countries, modern technical knowledge has to be superimposed upon a retrograde system, and the social conscience will hardly give technology a free field. To desire industrialization in these countries, without wishing to pay its heavy price in supplying capital and dealing with social upheavals, is to ignore very grave difficulties.

Again, underdeveloped countries lack the appropriate technological knowledge. Each country has to work out its own salvation, and, particularly, to find out which production methods are feasible for it. In this sense technological knowledge is a limiting factor.

The following techniques seem best for underdeveloped countries: (a) ones which can be quickly learned; (b) requiring little initial investment and no increase in the size of firms; (c) reducing the 'gestation' period; (d) requiring less investment in specialized and skilled workers and being appropriate to current educational standards; (e) saving scarce resources other than labour; (f) expanding production horizons, and increasing supplies such as minerals or electricity. The limited resources available for acquiring technical knowledge necessitate careful choice of fields in which to become proficient. Natural aptitudes, expected requirements in various fields, and activities in which specialization is desired, show the fields of knowledge appropriate for concen-

trated development. Without careful planning, resources may be dispersed. The choice between pure and applied research is also important. Scarcity of resources makes it desirable to seek knowledge with immediate practical application.

Again, what type of specialist technical training is most useful? Should it be based on a wide general training, or should specialization start early? In backward countries, specialization might be preferable. The pace of industrial expansion in backward countries depends on modifying Western techniques and creating a suitable organizational framework. Here managerial capacity has a significant role.

Managerial capacity must be distinguished from innovation or entrepreneurship. Managers direct existing enterprises; innovators cause radical, discontinuous, changes in the economic environment. The manager's function is to adapt production as efficiently as possible to changes in external conditions, including changed production methods, forms of organization, markets and legal systems. The 'optimum' organization is continuously changing with the economic environment. Co-ordination is essentially dynamic; its efficiency determines the reserves which firms can create. Thus it limits future expansion. Further, the speed with which firms adapt themselves determines the rapidity of social change.

Deficiencies in management limit expansion in two main ways:

1. Management becomes more difficult as firms expand; entrepreneurs prefer limited development. With more adequate managerial talent, individual firms might grow faster. Such limits on expansion occur at two extremes. First, firms denied specialized managers suffer from a deficiency in managerial capacity. Since management has to be performed anyhow the choice lies between a specialized manager, able to adopt highly-scientific management methods, and the native, untrained, ability of owners or their nominees. Such firms could attain greater efficiency if assisted by specialized management. Second, firms may grow so large that even the best managerial talent cannot cope with them. In underdeveloped countries the former limitation is more important.
2. Fewer new firms may be established because entrepreneurs are lacking. How is management related to enterprise? In most underdeveloped countries entrepreneurs are scarce enough; the position only worsens when they become entangled in actual management. This happens when enterprise and management are not sufficiently diversified. If proprietors prefer to manage their own firms, then, from the community's point of view, the more they perform actual management the less their time for starting or expanding enterprises. Modern management is highly complicated, and specialization on management or entrepreneurship is essential. Development in backward countries depends too much on a small group of leaders; they should not fritter away their resources. Why do not entrepreneurs realise this? It is a vicious circle. Efficient managers are scarce. Entrepreneurs therefore cling to responsible functions. Yet unless there is a sustained demand from entrepreneurs, the best men do not specialize in management. Until proprietors trust in managers, such a specialized cadre will not develop.

There are, broadly, three stages in developing the management function. First, the entrepreneur himself is the manager. Second, as responsibilities increase, he may delegate them; but not if he is old-fashioned, or disapproves

of decentralizing responsibility, or cannot find or afford specialized managers. In any case, a firm's progress may be hampered by insufficient personal interest or organizational ability. As a result, the owner's energy may be dispersed between several concerns, all run inefficiently. Gradually, as the concerns grow, the owner will probably have to delegate his functions. Thus, third, the management function becomes subdivided, and the manager allows greater functional specialization.

The attitude of industry generally, the rate at which firms expand, and the conscious need for functional specialization, all largely determine the demand for managers. If most firms are small and moderately poor, the demand for specialized managers is limited. 'Average' managerial capacity is abundant, but specialized management can only be used after the business has become fairly large. Somewhat later, diminishing returns set in andco-ordination exceeds the individual's capacity. Since management is an admixture of diverse talents, the supply of efficient managers is limited. The indivisible nature of managerial capacity and the predominance of small firms explain why the general level of managerial efficiency is relatively low in underdeveloped countries. Yet if large corporations developed, the demand for specialized managers might fall. The demand for managers depends on the number of individual firms and on their rate of growth.

As firms grow, they may find it desirable to delegate management to an external agency looking after several concerns and with a financial interest in them. This system makes specialized managers unnecessary in individual firms—and large-scale management is more economical. But the system can lead to abuse. An agency interested in several competing firms may use its funds so that their respective interests are set at naught. Again, when some industrial development has occurred, such agencies hinder growth by preventing the separation of ownership from control, and prevent specialized business leaders and managers emerging. Hence the managing agency system in India has become outmoded.

To make good deficiencies in managerial capacity, one first needs to teach entrepreneurs how to employ specialized talent and to encourage its development. If reliance on family relationships cannot be reduced, adequate training should be given to managers. Even in advanced countries, entrepreneurs often look down on scientific training. They are doubtful of qualified persons' ability to adapt themselves. Industrialists in advanced countries are beginning to realize that scientific management pays; but not yet in underdeveloped countries.

Again, the scale of rewards must attract the right kind of managers. In underdeveloped countries government service takes the best talent, partly because of better conditions and higher income, more because of the high social status of government service. To attract good men, private business must offer unduly high rewards, great security and possibilities of advancement.

In developed economies, changes in ownership or control do not cause large management changes. In underdeveloped countries, the tendency to appoint relations to key positions does frequently cause changes in top management. New men come from outside the firm, giving little opportunity for advancement to those inside. The consequent uncertainty and lack of incentive helps to perpetuate inefficiency.

Managerial talent also develops slowly because of the general 'unenlightened' attitude of entrepreneurs. Industrial development depends on capital,

and hence on the pattern of wealth distribution. Since there are few investment institutions, industrial advance largely depends on the attitude of wealth-owning groups. If they prefer short-term gains, even the best manager has limited scope. Indeed, interests of owners and managers may diverge. The latter stress the continuity of the concern and its efficient organization. The rewards of this are reaped only after much time, and often lead only to intangible returns like increased prestige. Managers would like to create reserves for expansion; proprietors only judge managers by their ability to earn immediate profits. Unless owners are enlightened, management has little scope and good managers will continue to be scarce.

Private enterprise in an underdeveloped economy can hardly offer the same opportunities as government service. Firms can only give security within their own organization. Unless industry generally is highly developed, and promotion chances are reasonable, too little talent will enter industry, and the best of it will go to the larger, well-established firms, which, by definition, need it less. Average industrial efficiency will not increase. Small wonder, then, that in many underdeveloped economies foreign-owned industry attracts the best talent. Again, social prestige in business may not tempt able men. If standards of education of businessmen—and morale and standards in private business—are low, social status in industry will suffer.

The remedy is to separate management from ownership and enterprise; to make management a profession; to improve conditions of work; to increase rewards, and to raise morale. This would help to attract the right type of manager. Managers should have the latest information about business conditions and methods, if necessary from specialized agencies. Established houses may thus gain little. They may even stand to lose because less-established firms will develop; but the reserves of developed firms can enter other fields. The considerable outlay on specialized management leaves the majority of small firms, unable, at present, to use modern organization methods. Specialized agencies able to perform various management functions should be developed, and their services made available widely and cheaply, until firms grow big enough to employ specialized talent. Yet no outside agency can alter the internal problems of firms, which must themselves see that their employees are trained in scientific management.

PROBLEMS OF INDUSTRIALIZATION OF UNDERDEVELOPED COUNTRIES

HANS W. SINGER

AGRICULTURAL IMPROVEMENT AND INDUSTRIALIZATION

The title of this paper implies that industrialization is necessary to economic development, and that underdeveloped countries are also 'under-industrialized'. But are underdeveloped countries necessarily under-industrialized; are developed countries always industrialized?

There is no controversy over two negative propositions: underdeveloped countries are not industrialized; industrialized countries are not underdeveloped. This however ignores a group of wealthy countries like Australia or Denmark, exporters of agricultural commodities, but not industrialized if judged by their foreign trade.

If we consider their internal employment structure, countries like Australia are, surprisingly, industrialized. Their agricultural productivity is so great that quite a small proportion of their workers can produce enough primary produce to give high-level supplies at home, and ample exports too. In their internal employment structures, these countries resemble developed manufacturing countries rather than underdeveloped primary producers. Thus, if one regards 'developed' and 'industrialized' countries as synonymous, one should understand that the term 'industrialized' describes only the employment structure. In that sense, all are industrialized.

Poor, underdeveloped countries have 60 to 80 per cent of their population in agriculture; national income is very low, as are *per capita* incomes and productivity in agriculture. This would be true even if agriculture in underdeveloped countries were as productive as other sectors. In fact, average productivity in agriculture tends to be even lower than in industry. *Per capita* income in agriculture is often about two-thirds of the national average. Both productivity and *per capita* incomes in the few non-agricultural industries are appreciably higher, if exceedingly low compared with even agricultural incomes in wealthy countries. Discrepancies between agricultural and non-agricultural incomes are much less in developed countries, even if productivity in agriculture bears the same ratio to national productivity, simply because a smaller proportion of workers are in agriculture.

There are two main roads to economic development: one can accept the internal structure of the country and concentrate on raising the low productivity, particularly in agriculture, within the existing structure. Alternatively, one can concentrate on the great difference between agricultural and non-agricultural productivity, increasing *per capita* national income by shifts away from agriculture. In the first case, the existing, predominantly agricultural, structure is improved. In the second, structural change is attempted.

The choice between improving the existing structure or making structural changes must be an economic one, decided by which of the two approaches is cheaper. There is no ready-made solution. There are cheap and expensive ways of improving agriculture. There are cheap and expensive ways of changing from agriculture to industry. Moreover, the two are alternatives only in the limited sense of which is to come first.

In the last resort, both types of change are bound together, in complex yet important ways. We are here concerned only with what is to be changed first, which is a matter of economic choice. A great deal of agricultural improvement can be carried out cheaply, for example by changing institutions like land tenure or practices such as rotation and by better seed selection, or the use of fertilizers. But there are also expensive ways of agricultural improvement, for example, where great irrigation works are necessary.

Similarly, in non-agricultural sectors of underdeveloped countries, existing industries can sometimes be improved by better management, better care of machines, etc. But improvement of existing industries may also mean extensive and costly re-equipment or relocation. Nor is a change to industrialization necessarily either 'cheap' or 'expensive'.

In general, the cost of industrialization can be lowered in three ways:

1. By avoiding urbanization with its heavy overheads like transport or water. This means bringing industry to the existing population rather than encouraging a general drift to the towns.
2. By concentrating on industries requiring little capital, and skimping on public utilities. Ultimately, however, the reduction in cost is more than offset by falling output.
3. By applying a technology which uses much labour and little capital. This is important in overpopulated countries, where capital and natural resources cannot maintain full employment and there is underemployment on the farms. A shortage of capital relatively to labour afflicts underdeveloped countries generally, but at present the possibilities of developing labour-intensive technologies are limited because such a development itself marks economic advance.

There are thus cheap and expensive ways of development, whether one improves the existing structure or attempts structural change. Relative cheapness in any specific instance depends on various factors. First, on the relationship of population to natural resources. Where there is overpopulation, agricultural development will be more expensive than industrialization. By definition, there is no land for ready extension of agriculture; agricultural improvement without any reduction of the agricultural population, if possible at all, requires costly investment.

Yet industrialization can be relatively cheap. There is a pool of unemployed or underemployed manpower, mainly in the countryside; the need for urbanization can be reduced by constructing public services and capital facilities there. Where population is sparse, development of primary production is likely to be relatively cheap compared with industrialization.

The test of expense means that the choice will rarely be of agricultural improvement or industrialization. Some agricultural improvements will be cheaper than industrialization and vice versa. At some point, the yield from further structural changes will be less than from improvements within the structure, and vice versa. Further, beyond the first step, improvement is bound to lead to structural changes, and structural change to bring improvement. For a continued rise in agricultural productivity will increase both real incomes and the demand for non-agricultural, particularly manufactured, goods. There will also be a derived demand for capital goods.

The operation of Engels' Law means that improvement leads to structural change. As incomes increase, a smaller proportion of any increase is spent on food. In a closed economy, it is impossible to increase agricultural productivity without causing structural change, if demand is reasonably free. One could maintain the position by exporting proportionally more of the increasing agricultural output, and importing correspondingly more manufactured goods. This would postpone structural changes in the developing country, but only by inducing them elsewhere.

Similarly, structural change implies improvement. Structural change in underdeveloped countries shifts people from the agricultural to the non-agricultural sector, and whether such a transfer means an absolute or only a relative fall in the agricultural population, it implies an increase in average productivity in agriculture. Otherwise the supply of food and other raw materials would fall, particularly for the non-agricultural population. This situation is incompatible with rising real incomes, for when real incomes

increase, people consume more agricultural products. Engels' Law does not say that they want less, only that demand increases less than in proportion to incomes.

Hence, industrialization implies agricultural development designed to increase yields of primary produce, though this change, again, can be shifted to other countries through foreign trade. But the improvements in productivity must occur somewhere within the existing structure. For the whole world the relationship between structural changes and improvements persists. The choice between improvement in agriculture and industrialization is mainly one of time sequence.

TECHNOLOGY AND INDUSTRIALIZATION OF UNDERDEVELOPED COUNTRIES[1]

Underdeveloped countries today use derived technologies. This distinguishes their industrialization from that in the nineteenth century, when the very process of industrialization depended on constant technical innovation. In attempting to industrialize, modern underdeveloped countries have to introduce a technology evolved over many years in much more highly developed countries. This is most dramatically evident in present-day technical assistance programmes. The more developed countries have a practical monopoly of industrial and scientific research and experience. Modern technology depends both deliberately and instinctively on requirements and factor endowments in industrialized countries. This has several results. First, it causes the rapid evolution of new, superior, technologies, and the correspondingly rapid scrapping of slightly obsolete capital goods. Second, the modern technology has concentrated on inventing labour-saving devices. Third, it requires certain levels of scientific training and of education, widely reached only in industrial societies.

Even in industrialized countries, these particular features of technological development create problems, particularly in times of unemployment and depression, when the underlying assumption of relative labour shortage is less true. By and large, however, technological advances suit the conditions in developed countries.

This is not true of underdeveloped countries. For them, a different and in many ways older or 'inferior' technology would be more appropriate. Capital is acutely short and labour relatively, even acutely, abundant. The technology of 1850 might well make economic development easier. But this technology has been scrapped, and rightly. The only existing technology is that of the industrialized countries.

An old industrial country like Britain could begin with a technology requiring few, simple, capital goods and develop that technology in step with changing factor endowments. Countries whose economic development occurred rather later perhaps had the best of both worlds. They avoided some of the inevitable blind alleys and experimental costs; yet technology had not advanced sufficiently to be out of line with their 'pre-industrial' factor endowments. This is particularly true of the U.S.A., where, in the early stages of development, labour was relatively scarce.

The underdeveloped countries today are in a worse position. Modern

[1] The writer has here drawn extensively on his article, 'Obstacles to Economic Development in a Non-Schumpeterian World', *Social Research*, 1953.

technology is not compatible with their endowments and their natural requirements. They cannot develop a technology harmoniously unless it is their own technology—and absence of an original technology is characteristic. At some stages it may have been an advantage to be a late-comer in economic development. By now, it is a serious disadvantage.

The modern capital-intensive technology affects underdeveloped economies in several ways:

1. The initial expense of investment is very high and makes the scanty resources of underdeveloped countries insufficient for balanced development.
2. Modern technology requires elaborate and expensive capital goods which have to be imported. This causes balance of payments problems and increases costs of installation.
3. Labour-saving devices are largely wasted since alternative jobs are lacking, prevented by the very lack of investment.
4. The effective life of expensive equipment is often shorter. Operators are less careful, standards of maintenance are lower, etc.

The absence of a technology which is both modern and in harmony with existing factor endowments is a major problem of underdeveloped areas. By adopting the technology of industrialized countries, they put themselves at an immediate disadvantage.

POPULATION PROBLEMS IN RELATION TO INDUSTRIALIZATION

It is a widespread belief that the first 'requirement for industrialization' is a reduction of population pressure. I shall deal here only with two problems, first that of population density, second the more dynamic one of population increase.

The first proposition to be considered is population in underdeveloped countries. This is so dense that agricultural returns are diminished and national incomes reduced; poverty is the inevitable result of population pressure, and one cannot 'promote economic development' otherwise than through population factors.

There is much to be said for this view, but not for the conclusion derived from it. It is not an argument against economic development. Dense population does indeed cause great poverty. Since underdeveloped countries are predominantly primary producers, dense populations on limited areas of land create a Malthusian deterioration through the law of diminishing returns.

But population pressure can be adjusted and yet not cause impoverishment. The internal employment structure can be changed so as to move excess population from the agricultural sector, thus raising *per capita* agricultural incomes, and to transfer it to occupations not subject to diminishing returns. Agreed, the automatic increase in *per capita* production in agriculture is not sufficient, since absolute output will fall even when excess population is removed. Hence, there is a need for some agricultural improvement beyond the automatic increase in productivity arising from the removal of excess population. Agricultural development, in the sense of increasing total production with smaller numbers, is an essential concomitant of transferring population from the agricultural sector.

Thus, the solution to this first problem is a move away from agriculture,

which aligns the employment structure of the country with the dictates of population pressure. Excess population may be a valid explanation for poverty, taking existing structures as given. But it is also a most urgent argument for simultaneously adjusting structures and improving agricultural productivity. Since these two things constitute economic development, overpopulation is an argument for, not against, economic development, especially for industrialization.

At worst, population pressure works in both directions: by reducing average incomes, it reduces the margin of resources available for development. It also increases prospects of development beyond what would normally correspond to the low income level.

With development policies adjusted to population factors, excess population carries its own 'built-in stabilizer'. If it causes poverty, it also indicates a way of curing it.

We now consider the more dynamic proposition that 'population in underdeveloped countries increases so rapidly that provision for the increasing population swallows up their meagre savings'. In many underdeveloped countries with low incomes, voluntary gross saving is no higher than 10 per cent of income, and may be less, and much of this gross saving may assume the form of hoarded gold, cattle, palatial public buildings, or bank accounts abroad.

Even if gross savings are wasted in this manner, about half of them will be needed to make good depreciation. There is little capital in underdeveloped countries, but the burden of maintaining it intact is as great, in relation to national income, as in developed countries. Indeed, for two reasons it may be higher. First, the capital-income ratio tends to be high in early stages of economic development. Second, existing capital tends to wear out more rapidly than in developed countries because of less efficient repair and maintenance, and the failure to adapt capital equipment to specific conditions and requirements. To assume that maintaining existing capital will take 5 per cent of the national income is to be conservative.

This leaves 5 per cent net savings. But before economic development can proceed, provision must be made for the increasing population. As in *Alice in Wonderland*, a developing country with an increasing population has to run in order to keep in the same place. Development requires an increase in *per capita* income.

How much of the 5 per cent net savings will remain for such development after provision for the increased population has been made? Probably nothing. If the rate of increase of population is 1¼ per cent and the capital-income ratio 4 : 1, it takes 5 per cent of the national income merely to maintain *per capita* capital.

This looks gloomy, but some qualifications are possible. First, it is assumed that increased population, while requiring capital for its productivity, will not in itself contribute to production, and capital formation. Yet, even in the developed countries, where capital-intensive techniques are important, additional labour, even without additional capital, can give significant, though not proportionate, increases in output.[1]

Second, increased output may not require correspondingly increased capital. Technical progress can, over a period of time, increase output, without such

[1] Cf. Tinbergen and Polak, *Dynamics of Business Cycles*, p. 128.

an increase in capital. One could even imagine population pressure stimulating technological improvements.

Third, not all capital would have to be increased. The existing roads might be sufficient for the greater population and might even be better utilized. Population increase may create external economies in the form of better use of existing capital. Population pressure itself may form an inducement to better utilization of existing capital.

Fourth, even if domestic savings disappeared in providing for the population increase, it would still be possible to use foreign capital to increase production and income *per capita*, and once generated such development might create a sufficient margin over consumption to maintain the impetus of development from domestic sources alone.

Thus, there is no inevitable necessity for increase in population to prevent economic development, except in very extreme circumstances. Again, contrary to a widespread impression, the rate of population increase in underdeveloped countries as a whole does not appear to be significantly greater than in developed countries, though the figures are not complete nor easy to interpret. It is true, however, that in underdeveloped countries, the way in which population increases is particularly wasteful. It results from high birth and death rates. It is the wastefulness of the method rather than the rate of population increase which is the real obstacle to economic development.

The age distribution in underdeveloped countries is also unfavourable to a high production and high capital formation. The combination of high birth and death rates results in large numbers of children, too few of whom survive to repay by sustained production throughout their working lives the 'investment' made in them in their youth. Paradoxically, one trouble of underdeveloped countries is that there is too much unproductive investment devoted to feeding and bringing up a new generation for productive work. If this is included as investment, it may well be that investment in underdeveloped countries takes more of the national income than in more developed countries, perhaps even on a *per capita* basis.

If the preceding argument is true, important policy conclusions follow: lower death rates will increase the rate of population growth and may make the provision of capital for the increase of population more burdensome. But it will also increase the proportion of children who survive and thus raise the productivity of investment in their upbringing. Hence, the net effects of a fall in death rates are doubtful, except that the more immediate effect is more likely to be harmful than the long-run effect. A simultaneous fall in birth and death rates, however, is likely to be economically beneficial, simultaneously diminishing the investment in the upbringing of children and increasing the productivity of the smaller investment actually made.

It is noteworthy that such an 'unfavourable age distribution' is common to underdeveloped countries generally, whether normally considered as 'overpopulated' or 'underpopulated'.

DISCUSSION

The discussions on the two preceding papers have been combined.

In the absence of Mr. Singer, MR. ROBINSON opened the discussion. He suggested

that Mr. Singer's two negative propositions, that underdeveloped countries were not industrialized, and that industrial countries were not underdeveloped could scarcely be accepted unless one was agreed on definitions both of industrialization and of development. Yet no one knew what 100 per cent development was. Were countries with high marginal efficiencies of capital underdeveloped? On that basis, the least developed area in the world today was probably the United States, and we were moving savings from an 'underdeveloped' area to areas with lower marginal efficiencies of capital.

This was a very different process from that which occurred in the nineteenth century, when the United Kingdom was the most important economic power. Perhaps we should not use the words 'underdeveloped' and 'more developed', but only the words 'richer' and 'poorer'. The real need was to deal with poverty and disease in poor countries.

This raised the problem of 'Engels' Law and all that'. Mr. Robinson very much agreed with Mr. Singer that there was no simple answer to the question whether backward areas should develop agriculture or industrialize. Engels' law did not, as Mr. Singer stressed, rule out the possibility of a considerable rise in the demand for agricultural output. Recent Indian development plans stressed agriculture more than earlier plans had done. But perhaps Mr. Singer had been too gloomy. Overpopulated areas might even now produce more food. Agricultural improvements had yielded increased yields of up to 50 per cent in selected Indian villages.

Mr. Robinson went on to ask whether countries like India or Burma should pass at once through all the stages of development experienced in Europe and the United States and become modern industrial economies? Or should they go rapidly through only certain of these stages of development, even more rapidly than Britain and the United States had done? Perhaps one need not bring United States technology to all countries. Could Africa not perhaps learn best from India, India from Japan, and so on? Or should all proceed straightway to a United States type of technology?

Finally, Mr. Robinson felt it desirable to 'bring the Malthusian devil out of his cage'. Economic improvement in backward areas would first of all increase populations, because death rates would fall. How soon could birth rates adjust themselves to death rates, and how greatly would population increase meanwhile? There was inevitably a point where the Malthusian effect ended and the Brentano effect (with a rising standard of living bringing lower birth rates) began. What we needed to do in backward areas was to substitute a self-perpetuating and cumulative process for the Malthusian process; a self-perpetuating process in the sense that as these countries got richer, their savings would rise and the process of increase would feed on itself.

Mr. Singer had shown how easy it was to suffer from Malthusian limitations. The fundamental need was to discover how to break the 'Malthusian sound barrier', and avoid situations where countries had to invest very rapidly merely in order to stay where they were. It was important to consider just how seriously one regarded the Malthusian bogy and whether it really was likely to be a major obstacle to attempts to set off the much-desired cumulative process of expansion in backward areas.

Various speakers then discussed what kind of technology should be established in underdeveloped countries and what the most suitable balance between agriculture and industry would be.

MR. KAFKA paid tribute to Mr. Singer's stress on the complementary relationship between industry and agriculture. He found it refreshing to see this point of view expressed so clearly. He also felt that Mr. Singer's definition of an industrialized country in terms of its employment pattern was more useful than a definition in terms of foreign trade structure.

Mr. Singer talked of avoiding the excessive cost of urbanization, but this might in itself raise costs by preventing external economies from being reaped. Industrialization would need both to be conceived in a long-term context and to be very well co-ordinated if all such external economies were to be achieved. On the need for industrial development in food-producing countries, Mr. Kafka felt that Engels' Law would only cause really serious problems if countries could not trade, or if many countries were developing simultaneously in exactly the same way.

MR. ANDRÉ MARCHAL agreed that not only were these two methods of development interdependent, but that indeed their very interdependence gave rise to a vicious circle, especially in some Middle Eastern countries. Increased agricultural production presupposed the use of improved techniques—mechanization. But in Middle Eastern countries there was no skilled labour to make machinery. Capital, too, was scarce. Mr. Marchal said that it was therefore necessary to import agricultural machinery; but unfortunately the only people in such countries who could afford to import were the rich, who wanted luxuries and not agricultural implements. This showed the importance of institutional factors in retarding development.

MR. ZOLOTAS also thought that institutional factors were vital; countries with the right institutional structure had made best use of foreign economic aid during recent years.

MR. SUVLA felt that Mr. Singer should have paid more attention to the effects of industrialization on the balance of payments.

MR. MOSSÉ denied the value of Mr. Singer's test of least cost as a measuring rod to decide on the appropriate combination of agricultural improvement and industrialization. Utility also should be considered; although one could give no numerical value to costs in terms of human, social and/or physical circumstances, particularly to costs arising because industrialization meant the uprooting of families and villages and the breaking of their traditional systems and ideas. Again, one could not measure the long-term cost of industrialization if it resulted in unemployment in the export industries of foreign countries.

MR. RUEFF had been very much struck by the 'dogma of industrialization' which was expressed by all representatives of underdeveloped nations. He did not know what was the origin of this feeeling that development and industrialization were synonymous. He felt that abundance of capital and of manpower still did not mean that industrialization always led to progress. When a backward country was asked how it wished to develop, one found that its main aim was usually to free itself from dependence on industrial countries.

MR. KUZNETS warned that one could not use information based on capital investment in advanced economies to study the problems of the underdeveloped areas, or recommend solutions to those problems.

MR. DUPRIEZ extended the discussion, asking what were the factors which governed the choice between agriculture and industrial development. In countries with very little capital, or none, it would in any case be necessary to use more capital-intensive methods. The process could be slow, however, and could begin by using a little capital and much labour, proceeding later to the creation of highly capitalistic industries. In some cases, however, devices which used a great deal of capital would be necessary. In export industries, for example, costs had to be kept down to compete with those of other countries, and a great deal of capital had to be used. MR. KAFKA thought it was possible for countries to have a mixture of highly labour-intensive and highly capital-intensive methods, and was not impressed by Mr. Singer's argument that the capital-intensive equipment which poor countries imported from rich ones retarded the development of the former.

MR. VAKIL stressed that, in an overpopulated country like India, not everyone could have a job in a town. Wherever modern technology could be applied, it should be applied. But the real need was to establish craft industries in the villages, using modern methods and perhaps electricity. This could be done on a large scale without much social disorganization. In order to bring about such a development, it would be necessary to invent methods of production simple enough to be performed by the average Indian worker. An important advance would therefore be to discover such simple methods, and technological research both in India and outside could help by concentrating its efforts on trying to discover them.

Mr. JAMES thought it important to distinguish two main types of underdeveloped country. First, there were those which were empty in the sense that much of their natural wealth remained unused, perhaps even unknown. Second, there were countries which were overpopulated. He suggested that the conference would not reach any

satisfactory conclusion until it distinguished the problems of these two types of country. In the overpopulated countries, one found not so much apparent unemployment, as disguised unemployment. The labour force was used in wrong directions. Perhaps the reasons why the overpopulated countries were difficult to develop were moral and intellectual. It had always been more difficult to train an abundant local labour supply to use an improved technique than to introduce foreign techniques used by qualified, and imported, labour.

MR. DOMAR turned the discussion to a problem of entrepreneurial organization. He asked whether difficulties arose in India because people did not trust each other sufficiently to form companies. This did not seem to be any longer true in the Western world, but he wondered if it was still a problem in undeveloped countries.

A new point was put by MR. HICKS who said that Mr. Vakil seemed to distinguish two kinds of entrepreneur. The first was the 'venturer' seeking short-run profits and not unduly worried about what happened when that immediate gain disappeared. The second was the constructive industrialist who was more concerned with building up long-term businesses. At times in the history of various countries, the venturer had played a useful part in economic development. But Mr. Hicks wondered whether in India the efforts of the venturer were being applied to the kind of 'long pull' problems which were really the most important of all at the moment. What was needed was the creation of permanent businesses, and the venturer was not interested in that. He felt that the distinction between these two types of entrepreneur had not always been made clear in the theory of the firm, which perhaps explained some of the difficulties encountered by those who had discussed the theory of the firm during recent years.

MR. GOETZ GIERY thought that, in the very necessary development of technical knowledge and managerial capacity in less developed areas, economists had a big part to play. There were many countries where technical and economic functions were not looked upon as important; nor were they greatly appreciated. In French universities, for example, students would not take up technical or economic studies. He felt that if one could make the importance of technical and economic knowledge obvious, it would be possible to create a spirit favourable to progress. In doing this economists had an important mission to discharge.

The session ended with two contributions which considered the more general problems of the underdeveloped areas.

MR. COLIN CLARK distinguished two kinds of problem in underdeveloped areas: those which wese gradually solved by autonomous or natural forces, and those which required more violent action. He thought the main problem was not so much how to break a 'sound barrier', as a 'barbed wire barrier'. The problems arising from increasing population were serious, but there were other problems and the real difficulty was that all of them reinforced each other. Only a violent concerted attack on all problems at once could break the 'barrier'. Whilst overpopulated countries might sometimes fail to industrialize, the industrialization of such countries required the stimulus of considerable overpopulation. The crucial difficulty appeared to be to pass through the early phases of capital accumulation when some strain was likely to occur.

MR. FRANKEL was unhappy in the atmosphere of 'what should one do about it?' or 'should one bring in more agriculture or more industry?'. One simply could not go to vast areas like Africa or India with a single simple solution. The essence of the problem lay in our ignorance. It was illuminating to go to a country like Africa and find an almost infinite range of possible improvements. In the past, the process of advance had been piecemeal, and inevitable errors were cancelled out. Now, however, we were in danger of making sudden large-scale decisions about the way in which whole communities should be organized when the knowledge at our disposal was not sufficient.

There were some areas in Africa where there was surplus population, in the sense that there were people who did not any longer fit into the existing social and economic behaviour patterns. It was perfectly easy to formulate abstract and therefore seemingly obvious 'solutions', but one could not necessarily assume that the people themselves would agree with them. They might well have fears and superstitions, some of which were perfectly justified. Again, the people themselves were not normally consulted

and asked whether they wanted to make the necessary sacrifices. The real retarding influences were the institutions of the backward areas, which might seem undesirable to us but which meant a good deal to many of the people themselves.

Again, Mr. Frankel said that some areas in Africa probably seemed overpopulated. Yet more people and not less might be needed; that is to say, people who would supply complementary skills to those of the existing population; people who were more educated and more enterprising. And yet the Africans did not want them. They resented such interferers. Mr. Frankel thought that one of the great movements forward would be to abolish barriers to mobility, for example, by changing systems of land tenure, or by giving industrial training. But all such changes, it should be remembered, took a good deal of time. In Europe such changes had taken centuries. How could one expect Africa to make them in a few years? Above all, we must realise that, in the light of the present needs of underdeveloped peoples, many of our economic abstractions and current tools of economic analysis had little meaning. What we needed was to develop the backward areas in such a way that advance would be 'organic', and therefore more certain and socially less disruptive.

OCCIDENTAL AND ORIENTAL CONCEPTIONS OF ECONOMIC PROGRESS

CORRADO GINI

In the name of economic progress the white races have developed many lands formerly closed to trade or, in their opinion, insufficiently used. Thus England conquered India; the United States ended Japan's segregation; Australia, unused and unpopulated, was annexed by England. Professor Mukerjee warns: 'Australia cannot . . . remain untenanted . . . a constant temptation to hundreds of millions of industrious and progressive neighbours, whose numbers are exceeding their food supply. . . . The world will not tolerate much longer the spectacle of enormous potential resources left undeveloped because of a national dog-in-the-manger policy, upheld by union leaders and politicians living in a few gay cities on the fringe of a vast barren continent.'[1] Similar arguments could justify the settlement of Indians, Chinese and Japanese in various Pacific islands, Papua, Australia, and on America's Pacific Coast.[2]

Mukerjee adduced various facts which, if somewhat outdated, are still significant. Oriental land cultivation still supports a much larger population per unit area than in the West: 100 acres in England support 45 to 50 people, in Canada probably only 10, in India 100 to 110.[3] The Asians could give Australia a population of 450 millions; South America one of 2,400 millions.[4]

Such wide differences in efficiency depend only partly on the smaller needs

[1] Cf. Radhkamal Mukerjee, *Migrant Asia*, Rome, 1936, p. 210.
[2] ibid., p. 57.
[3] ibid., p. 12-13 and 257. Kazushi Okhawa's reprint 'International Comparisons of Productivity in Agriculture', The National Research Institute of Agriculture, Tokyo, *Bull. No. 1*, Sept. 1949, in substance confirms Mukerjee's conclusions.
[4] ibid., p. 193.

of the Oriental peoples, because of their lower basic metabolism, and their better adaptation to hot climates. The essential reason is that they obtain a much higher yield from the land. Thus the Japanese took land abandoned or rejected by others, and made it highly productive.[1]

It is by average yield per unit area that economic progress can be measured; on this the superiority of the Oriental system depends. For even the high living standards in Western industrial areas are partly based on primary produce from overseas. Mukerjee recognizes the value of past work by Westerners in developing the East, but considers Orientals better fitted for continuing this task. Behind Mukerjee stands half of human kind, confined to some 4 per cent of the world's surface. No nationalism will in the long run resist the expansionist force of these people, arising from their indisputable economic superiority.[2]

The essential reason for this superiority lies in intensive hand-cultivation of the soil, with the minimum of livestock, fertilizing with every available particle of organic matter, under the system of 'circular farming'. To obtain as many calories by raising livestock requires five times the area. Modern machinery is little used. The system is substantially large-scale horticulture. Acceptance of this view implies the paradoxical conclusion that the most progressive economic system was introduced during the night of the past.

Such a conclusion is unacceptable. E. F. Penrose considers a stronger population better than one more numerous, but enfeebled by deficient diet.[3] Bertrand Russell, discussing the so-called 'biological theory', which considers as a supreme end the survival of the largest number of representatives of a species, particularly of humans, objects: 'I cannot see any justification for such a mechanical and arithmetical outlook . . . what human person would prefer a large population living in poverty and squalor to a smaller population living happily with a sufficiency of comfort?'[4] This last phrase reveals the Western criterion of economic progress—the individual's income on which this comfort depends.

This criterion is accepted by the optimum theory of population. The optimum population occurs when, under given conditions, the highest possible average income is reached. This theory can easily be criticized. It ignores many factors, like the aspirations of religious propagandists, politicians, and soldiers who all see strength in number; it overlooks the organizational and cultural advantages of a dense population. But such extra-economic objections leave the concept of an optimum population untouched as a measure of strictly economic progress.

Thus qualified, the above criterion correctly portrays the Western conception of economic progress. Like the Eastern, it is based on income but it differs in that average *per capita* income is the yardstick of economic progress. This leads to a radically different classification of the several countries. India and China pass from the first to the last places; Argentina from the tail to the head.

Even more striking consequences emerge from considering individual

[1] ibid., p. 137.
[2] ibid., p. 11.
[3] E. F. Penrose, *Population Theories and Their Application, with special reference to Japan*, Food Research Institute, Stanford University, California, 1934.
[4] Bertrand Russell, *Authority and the Individual*, The Reith Lectures for 1948-49, London, George Allen & Unwin Ltd., p. 117-8.

estates and not whole countries. An Argentinan estate, grazing immense flocks on vast areas, would represent an advanced stage of progress; its owner secures a very high income. Similarly, tribes like the Bantus would head economic progress, since their members often own huge herds of cattle. This idea probably reproduces a stage traversed by early society. The Western, like the Eastern notion suggests that—from prehistoric ages—humanity has achieved little economic progress.

Indeed this Western notion convinces us less than the Eastern; it runs counter to popular demands for agrarian policies to reclaim swamp-lands and break up great estates. Such works, though reducing the income of the owner and his small family, increase income per unit of land.

The weak point in both arguments lies in the underlying notion of income. This is admittedly the current one, being based on output, net of all costs except, in the case of a free producer, for his maintenance and amortization. I have long protested against this exception and pointed to some drawbacks.[1] We now consider another drawback.

The current notion of income is illogical, first, because it treats differently two workers, one free the other a slave, who differ only in extra-economic characteristics. This makes it impossible to compare the income of a country before and after slave-emancipation. Maintenance and amortization costs, previously deducted from slave-owners' incomes, are still deducted from the individual entrepreneurs' production, but they increase global national income, being income for the workers. Second, it is illogical to deduct the wear and tear of machines but not the expenses of maintaining and amortizing men. If a country loses x men by emigration, replacing them by machines producing an identical product at the same cost, the country will figure as having a lower income. The expenses of operating and amortizing the machines are then deducted from income; maintenance and amortization of the men were not.

The objection is raised that men are both producers and consumers. But national income calculations attempt to estimate, though imperfectly, national economic welfare. One cannot speak of welfare until essential needs are satisfied. Only goods in excess of such needs can be included in an index of welfare. Admittedly, satisfaction is greater when needs are keenly felt, but this satisfaction merely compensates for pain previously felt.

This conclusion is supported by modern fiscal practices. Not only are minimum incomes exempted, but all earners receive tax-free allowances based on the subsistence minimum for themselves and their dependents. As this exemption ceases, for children, at a certain age, it is clearly intended to cover the expenses of upbringing and training.

If one allowed for such costs of maintenance and amortization of human beings one would need a new word referring to the remainder of income, which would then supply an index of welfare, establishing reliable comparisons in space and time. Such an amended measurement of income gives plausible conclusions. Let us assume that 10 dollars represent the individual's maintenance and amortization costs (here, to save space, called 'subsistence').

1. If 1,000 persons on 100 hectares give an average output of 10 dollars, total output will be 10,000 units. Income will be nil, 10,000 units only covering

[1] See, for example, *Report on the Content and Use of the Estimates of National Income, Studi sul reddito nazionale, Annali di Statistica*, Series VIII, vol. III, 1950, and (in English) *Banca Nazionale Del Lavoro, Quarterly Review*, No 5, April 1948.

the 'subsistence' of the workers. Such is the case in overpopulated countries with intensive cultivation, like India.

2. If only 3 people live on 100 hectares, with an average output of 1,000 dollars, total output will be 3,000 dollars. Income, net of 'subsistence', is 2,970 units. This is the case for example in the Argentine pampas.
3. If 100 people on 100 hectares give an average output of 80 dollars, total output is 8,000 dollars, leaving an income net of 'subsistence', of 7,000 units, far more than in 2. Such is the usual position in Western countries.

The Oriental criterion of economic progress seems well-founded provided we deduct 'subsistence' from income. Agrarian policy that reduces estate-owners' incomes but increases global income from the land seems justified. But the common intuition of Westerners, who believe their economic system to be more progressive, is also well-founded, because income per acre, after deducting 'subsistence', is higher in the West.

DISCUSSION

Mr. DUPRIEZ welcomed Mr. Gini's courage in comparing the views of representative Eastern and Western thinkers. One clearly could not question the importance of land as a factor of production in the Schumpeterian sense. The important point lay in relative factor scarcities. Where land was scarce compared with other factors, its importance was obvious. More generally, the productivity of land was fundamental to progress. For example, during the war, Europe came to see that the efficient use of land was even more important than that of labour.

Mr. VAKIL said that whilst Mr. Mukerjee was respected as a sociologist, he was not an economist, and his statistics might not all be accurate. The 1936 book had a particular purpose, and did not mean that East and West differed fundamentally over the measurement of economic progress. While the British were still governing India, Congress had produced a plan stressing the importance of increased *per capita* income. The Bombay Plan had also increased *per capita* income as its main objective.

The present India Five-Year Plan had the same objective of increasing aggregate productivity and bringing economic progress by raising income per head.

Mr. FOURASTIÉ agreed that *per capita* income was of supreme importance. Increased output per unit of area was obviously never an end in itself, though extremely important in overpopulated countries.

Mr. PEYREGA insisted that one must here use both the criterion of *per capita* income and that of product per unit of area. Mr. Gini was right in claiming that we too often compared *per capita* incomes uncritically. We ought to make the kind of distinction he suggested but, ideally, we should take all items of subsistence into account, and this might be difficult because subsistence levels differed so widely between countries.

Mr. FRANKEL pointed out that high population per acre in the tropics often indicated poor-quality land. It was an illusion to suppose that tropical land was rich minerally. Population densities were often high in low-lying areas where farmers had adapted their methods to a high rainfall—or even swamps. On less fertile land, with irregular rainfall and no irrigation, suitable techniques had not yet been developed. A serious question was how to transfer populations with a low standard of living at present to new activities where they could learn how to use land, as yet unconquered, either because of its isolation from world markets, or because of peoples' ignorance about how to use it economically.

Mr. GINI closed the discussion, saying that he had contrasted Eastern and Western concepts of economic progress only as an illustration of the practical importance of his paper. Whilst he appreciated the efforts of Western scholars to change the minds of

Eastern peoples he thought it dangerous to rely on such efforts. It was more practical to examine Eastern conceptions objectively and to accept from them what could be accepted. He still felt that Mr. Mukerjee's thesis represented the views of the overwhelming majority of Easterners better than the 'Westernized' conceptions of Mr. Vakil. His own thesis had been that one should deduct the costs of maintaining and training workers from *per capita* income; only Mr. Peyrega had discussed this point, and he had accepted it.

III. THE ROLE OF CAPITAL AND ENTREPRENEURSHIP IN ECONOMIC DEVELOPMENT

THE PLACE OF CAPITAL IN ECONOMIC PROGRESS

A. K. Cairncross

Capital occupies so dominant a position in theories of production and distribution that one naturally expects it to be equally important in the theory of economic growth. In most industrialized communities capital accumulation out of savings equals about 10 per cent of income. If innovation were to come to a standstill but additional investment could nevertheless yield an average return of 5 per cent, the consequent rate of increase in national income would normally be no more than ½ per cent per annum; we are told that national income has in fact been rising by 2-3 per cent per annum. On this showing, capital accumulation could account for, at most, one-quarter of recorded economic 'progress'.

Even this argument exaggerates the role of capital. For the yield on additional capital would rarely reach 5 per cent but for a discrepancy between the existing stock of capital and the stock appropriate to the existing technique. If innovation, in the broadest sense, were at a standstill, accumulation would continue until the rate of interest fell to a point where saving ceased. The sole object of accumulation would then be to take advantage of the progressive cheapening of capital and to introduce more roundabout methods of production. Ordinary observation suggests, however, that there is extremely limited scope for investment *in industry* to take advantage merely of lower rates of interest, once the long-term rate is below 5 per cent, though there may be more scope where capital charges bear a high proportion to final cost (for example, in erecting dwelling houses or public buildings).

The contribution of capital to economic progress is not, however, confined to the usufruct of additional capital assets, similar to those already in existence. It embraces three distinct processes. First, more abundant capital permits more roundabout methods of production or, more precisely, a more roundabout pattern of consumption. This covers the freer use of capital instruments in producing a given product, the use of more durable instruments, and changes in consumption patterns in favour of goods and services with relatively high capital charges per unit of cost. Second, capital accumulation is a normal feature of economic expansion. This is the process of widening, as opposed to deepening, the structure of production. It may accompany industrialization, or any change in the balance between industries that increases demands on capital; it may accompany a market extension associated with population growth, more favourable terms of trade, or the discovery of new natural resources. Thirdly, additional capital may be required to allow technical progress. It may either finance new discoveries or, more commonly, the adaptation of existing knowledge to allow its commercial exploitation through innovations in product, process or material.

Of these three, the first is generally subordinate; it is unusual for unassisted capital accumulation to bring rapidly increasing income. The second accounts for nearly all past capital accumulation; forces making for a rapid increase in income may be largely nullified unless reinforced by a parallel increase in capital. The third, however, covers—at least in advanced industrial countries—the main influences governing the rate of growth of real income per head. Whatever may be true of the past, it is now technical innovation—the introduction of new and cheaper methods—that dominates economic progress. Whether such technical innovation makes large demands on capital is however very doubtful. Many innovations can be effected whilst one is replacing capital out of depreciation allowances—which, in an expanding economy, may be as large as net savings. Others may actually reduce capital requirements. Existing buildings and existing machines can often be modified to reap most of the advantages of the new techniques. It is economic expansion, rather than technological change, that is costly in capital.

The facts suggest that capital and income tend to increase at about the same rate. Both in Britain and the United States the ratio between them has remained comparatively steady over the seventy or eighty years for which data with some claim to reliability exist, although there have been oscillations. This relative constancy may be entirely accidental. But there are general grounds for expecting that the ratio will be fairly stable or at most will change slowly.

First, we are dealing with annual increments that are themselves small. If savings represent about 10 per cent of income and the capital stock equals about four years' income, the rate of increase of capital will be 2½ per cent per annum. The rate of increase of income in industrial countries is normally 2 per cent to 3 per cent. A marked divergence between the two rates can hardly occur whilst savings maintain some stability in relation to income, and productivity rises at what one regards as a normal pace. Even a divergence of 1 per cent per annum would take some time to shift the capital-income ratio unmistakably.

Moreover, compensatory influences over the past seventy or eighty years have kept the two rates together. Early in the period, population growth was much more rapid than later; technical progress was more rapid in the second part of the period than in the first. Thus initially the rate of increase of income was boosted by population growth, and as this fell off productivity gained momentum. Together, these influences tended to stabilize the rate of income growth. There is, however, except in the inter-war period, little evidence of any large reduction in the rate of capital accumulation. Finally, several important constituents of the stock of capital might well increase more or less *pari passu* with income and so help to stabilize the capital-income ratio.

Any force increasing income will almost inevitably increase the demand for capital in the form of stocks, houses and public buildings more or less correspondingly, whatever its impact on other sectors. There may however be some types of capital (like the railway system) that need no increase; and if the bias of consumer expenditure is increasingly towards luxury goods and personal services as incomes rise, this too will lower the capital-income ratio as income per head rises, since luxuries and services normally make greater demands on labour than on capital for each pound spent. But we should not overstress this point, both because such a shift towards services is itself somewhat in doubt, and because purchases of consumers' durable goods should, strictly, be reckoned as adding to the capital stock.

When the capital-income ratio does alter appreciably it is generally to agriculture, raw materials, and public utilities that one must look for an explanation. Even in those groups there may be a quasi-automatic 'lift' to the employment of capital, not because a larger stock per man is used, but because the cost of assets rises progressively with income per head—the building industry, which constructs most of these assets, lagging behind in its technical improvement.

If anything, one would expect a slight downward trend in the capital-income ratio over the past century because economic progress between 1850 and 1900 made heavier demands on savings than does economic progress today. There was a rapidly growing population to house—and housing has been throughout the largest claim on new capital. There was a revolution in transport to finance — and transport used more capital per man than any other industry. Finally, there was the opening-up of new countries, largely with borrowed capital—by far the most important 'innovation', increasing real income all over the world.

It is arguable, indeed, that, with the decline in the strain on savings caused by population growth, the absence of any large-scale development of new countries and the corresponding shrinkage in foreign investment, technical innovation may play in the twentieth century the role that was played in the nineteenth by the growth and resettlement of population. If technical innovation does in fact require only a modest amount of capital, there is an obvious danger that the prolonged inter-war maladjustment between current habits of thrift and the openings for capital accumulation may recur.

Technical development throughout the inter-war period was extremely rapid and productivity seems to have increased at a rate that is at least comparable with post-war experience. Yet net investment in manufacturing industry both in Britain and America was trifling; capital per man employed seems to have risen slightly but capital per unit of output undoubtedly fell. Capital accumulation was confined to a remarkable degree to housing and public utilities, without any apparent inflection of the productivity curve.

To sum up. Given that the national income is increasing, whether because of technical progress, population growth, or some other factor, there is good reason to expect that additional capital will be required on a comparable scale. Habits of thrift—a phrase that must now be stretched to include not only the practices of corporations in adding to reserves but also the propensities of finance ministers—appear to admit of capital accumulation at a rate of about 2½ per cent per annum, and this has recently been close to the rate of growth of income. Provided that the capital requirements of industry also increased at this rate, the capital-income ratio will remain constant and all the country's thrift will be effectively mobilized. One cannot guarantee, however, that industry's requirements will in fact mount at this rate, even in the long run. In the short run, for familiar reasons, the whole process of capital accumulation may be thrown out of gear.

The significant feature of this argument is that it hinges far more on indirect than on direct demands for capital. It assumes that technical progress largely operates independently of capital accumulation; that capital is needed, not to make innovations, but to consolidate the improvement in income that innovation brings. Moreover, it implies that if the process of innovation creates any bulge in the demand for capital, it should be possible to adapt the pattern of investment so as to accommodate the high-yielding

requirements of industry by displacing part of the larger, but less remunerative, requirements of house building, stock building, etc.

Of course, this implication may be mistaken. Public policy may maintain the demand for capital in sectors capable of compression; or the capital market may be so organized that industry is unable to draw capital from the sources that finance other forms of accumulation. But unless the bulge is very large and consistent, it is doubtful whether innovation need suffer greatly.

Technical progress generally widens the divergence between the actual capital stock and the stock consistent with full exploitation of current market opportunities. Some of the additional capital will be needed to finance innovations in the sectors where they arise; some will be linked with the innovations directly, either because associated industries are offered a wider market or because social capital in some areas becomes insufficient; some will be linked indirectly, because increased consumers' expenditure causes a derived demand for capital. Now, particularly with a major advance in technique, the influence which it exerts on the scope for eventual capital accumulation is commonly far more profound than its immediate impact on current capital formation. There is generally a chain reaction through time, one physical asset being wanted only after another has been created. Although all the consequences may be entirely foreseeable, development does not attain its full momentum until a whole series of changes have occurred: an extension of the new technique there, a shift of location in one industry, a building up of new attitudes in another. The introduction of the steam engine, for example, brought into existence a large reservoir of projects that trickled out into capital formation all through the nineteenth century; the stock of capital appropriate to existing technique was far above the existing stock, both because the steam engine was capable of wide application and because many industries that themselves made no use of it (such as bridge building) were transformed in scale or (like agriculture and many pursuits ancillary to it) in location.

Moreover, because the chain reaction takes time and the innovation is, *ex hypothesi*, profitable, the process is largely self-financing. If there is a spate of such innovations, interest and profits are likely to show some response and a corresponding shift in the ratio of savings to income will ease the heavy burden of finance. But the situation may not be regulated in this way: interest rates may be sticky upwards as well as downwards. The probable outcome will then be a series of spurts in investment, followed by periods of indigestion. Excessively large bites, inadequate mastication, the selection of appetizing titbits rather than nourishing staples, and all the usual errors of judgment that attend a children's party may give rise to the familiar heavings that were known in the nineteenth century as the trade cycle. The Victorian period can be interpreted largely as a rush to overtake technique.

A variant of this situation is one where investment has lagged considerably behind known opportunities for the fruitful use of capital at existing rates of interest. A country that has failed to use technical knowledge available elsewhere may suddenly become alive to its possibilities: capital requirements will suddenly—but discontinuously—increase and the additional capital required before it reaches the limits of technical knowledge may be very large. This situation appears to be in the minds of those who assume that the injection of additional capital into a country's economy will almost automatically speed up its economic progress. Sometimes the argument is framed more specifically

in terms of a shift of employment from agriculture to industry, with a large net gain in productivity, and the large capital investment needed to accomplish it operating as a brake.

This complex situation may exist in some underdeveloped countries. But additional capital, whether borrowed from abroad or accumulated through the exertions of surplus labour in the countryside, need not necessarily of itself suffice to start off a cycle of industrialization. The problem is often one of organization quite as much as of capital creation: of training managements and men; of creating new attitudes towards industrial employment; of taking advantage of innovations that need little capital and using the resulting gains to finance investment elsewhere.

On the whole, there is a greater danger that the importance of capital in relation to economic progress will be exaggerated than that it will be underrated. The most powerful influence governing development is not the rate of interest or the abundance of capital; and the most powerful influence governing capital accumulation is not technical progress.

INTERRELATION BETWEEN CAPITAL AND OUTPUT IN THE AMERICAN ECONOMY

EVSEY D. DOMAR

That capital is a necessary factor of production has been known to men from time immemorial; but serious and fruitful economic analyses of the relationship between capital and output have mostly been remarkably recent.[1] Admittedly statistics were scarce, but sources which could have yielded estimates of capital had existed for some time.[2] The main blame for the neglect of this subject is attributable to traditional economic theory, which has been wary of stocks and has seriously neglected the balance sheet as an economic document.[3]

Recent events have brought changes. Discussions of full employment led to estimates of the total national output required to eliminate unemployment. The war repeated this question in a different context. Studies of the relationship between capital and output have been stimulated by Keynesian economics, where investment plays a major role. The use of the acceleration principle called for estimates of the relation between a rise in income and induced investment, and led to what Harrod called the 'warranted' rate of growth.[4] The same question was approached by others from the opposite end: by what amount should income rise to absorb the enlarged capacity created by a given investment?[5] Leontief's interest in capital coefficients arose from his

[1] A brave attempt was made by Paul H. Douglas in *The Theory of Wages*, New York, 1934.
[2] Official estimates of American wealth were made for the years 1850, 1880, 1890, 1900, 1904 and 1922.
[3] See, however, Kenneth E. Boulding, *A Reconstruction of Economics*, New York and London, 1950.
[4] R. F. Harrod, 'An Essay in Dynamic Theory', *Economic Journal*, vol. 49, March 1939, p. 14-33, and *Towards a Dynamic Economics*, London, 1948.
[5] E. D. Domar, 'Capital Expansion, Rate of Growth, and Employment', *Econometrica*, vol. 14, April 1946, p. 137-47.

studies of flow-input coefficients.[1] Finally, inquiries into the development of backward countries pose the same basic question: how much capital is needed to achieve a certain increase in output?

My original assignment was 'Statistical Evidence on the Interrelations of Investment and Income Growth in the U.S. Economy'. Soon after, the studies of Kuznets, Goldsmith and Leontief appeared giving us practically all the information about my topic.[2] Therefore, I merely comment on this problem.

Output should be expressed in terms of an adequately comprehensive production function, flexible enough to allow some degree of substitution between factors and products. This we have not y et got,[3] but only a number of relationships between various inputs and outputs, in terms of simple ratios. The capital coefficient in its several varieties is such a ratio.

The average aggregate coefficient can be variously computed, depending on the problem. Thus capital stock can comprise reproducible fixed capital only, or the latter plus inventories, and/or land, etc.; or it may cover only private capital, or private plus civilian public capital, and so on. National product can include the government contribution or parts of it, income from abroad, etc. A major distinction is between the net coefficient, where the numerator equals the stock of capital (however defined) net of depreciation, and the denominator is net national product; and the gross coefficient where these magnitudes are gross of depreciation. The difficulty of measuring the capital stock is well known. For us the least helpful method is to capitalize income at a given interest rate. The replacement cost method is promising, particularly for empirical problems where the *total* stock of capital is unimportant and the marginal capital coefficient is used. Goldsmith's *Perpetual Inventory of Wealth* is an extremely interesting approach, but has its own difficulties. It treats capital stock as investment accumulated over a period of time, each layer, so to speak, depending on its composition, assumed to be in existence for a certain period of time. This requires knowledge about the longevity of each class of capital, even when a gross capital stock is being computed. U.S. Treasury estimates of capital longevities used for tax purposes are not very useful and better data are scarce.

THE BEHAVIOUR OF THE AMERICAN CAPITAL COEFFICIENT 1889-1949

Year	From Goldsmith — Net fixed capital / Net nat. prod.	From Kuznets — Net fix. cap. and inv. / Net nat. prod.	Gross — Gross fix. cap. and inv. / Gross nat. prod.
1889		2.99	
1890			5.6
1897	2.68		
1898	2.66		
1899	2.54	3.36	
1900A	2.51		5.3

[1] Wassily Leontief and associates, *Studies in the Structure of the American Economy*, New York, 1953.

[2] Simon Kuznets, 'Long-term Changes in the National Income of the United States of America since 1870', and Raymond Goldsmith, 'The Growth of Reproducible Wealth of the United States of America from 1805 to 1950', both in *Income and Wealth of the United States, Trends and Structures*, International Association for Research in Income and Wealth, Cambridge, Mass., 1952.

[3] See, however, Douglas' work mentioned in note 1, p. 236.

Year	From Goldsmith Net fixed capital Net nat. prod.	From Kuznets Net fix. cap. and inv. Net nat. prod.	Gross Gross fix. cap. and inv. Gross nat. prod.
1900B	2.51		4.6
1901	2.37		
1902	2.44		
1903	2.42		
1904	2.56		
1905	2.49		
1906	2.34		
1907	2.37		
1908	2.68		
1909	2.38	3.40	
1910	2.47		
1911	2.61		
1912	2.68		4.8
1913	2.68		
1914	2.90		
1915	2.70		
1916	2.47		
1917	2.28		
1918	2.17		
1919	2.24	3.76	
1920	2.54		
1921	2.76		
1922	2.63		4.7
1923	2.35		
1924	2.42	3.53	
1925	2.46		
1926	2.42		
1927	2.51		
1928	2.59		
1929	2.47	3.86	4.4
1930	2.81		
1931	3.09		
1932	3.63		
1933	3.59		
1934	3.15	4.03	
1935	2.82		
1936	2.45		
1937	2.35		
1938	2.49		
1939	2.29	3.27	4.3
1940	2.10		
1941	1.68		
1942	1.63		
1943	1.43		
1944	1.32	3.19	
1945	1.34		
1946	1.51		
1947	1.59		
1948	1.62		3.7
1949	1.71		

The table presents three kinds of aggregate average capital coefficients in real terms over the last 60 years. The Goldsmith coefficient gives the ratio of net fixed capital to net national product. The Kuznets coefficient has the same denominator; its numerator includes inventories. The final column gives my crude estimate of a gross capital coefficient.[1]

All three coefficients, particularly the gross one, are extremely rough, but two very tentative conclusions may be suggested:

1. Over the whole period, despite year to year fluctuations, the coefficients are reasonably stable.
2. They exhibit no marked upward trend. On the contrary, both Goldsmith's and the gross coefficients decline with time, particularly after 1946.

Though crude, these estimates allow us to reject, at least temporarily, the notion that capital 'deepening' is necessary to economic development, though this may have been the case in various countries at certain periods. In the U.S.A., 'diminishing returns' from capital (owing to a lower rate of growth of labour) seem to have been offset by long-run technological progress. The marginal product of capital today need not be appreciably lower than 50 years ago. The negative form here is intentional; the estimates do not warrant more positive conclusions.

The main defect of all the coefficients arises from the absence of proper adjustments for changes in the utilization of capacity. Thus their sizes during the 30's are practically meaningless; much of the fall after 1946 is due to more intensive utilization of productive equipment. To what extent the coefficients were similarly affected before 1929 (in whichever direction), I cannot judge.

The importance of unused capacity becomes more obvious if one notes that there are really two relations between capital and income. The first is the (technically-determined) coefficient discussed so far. There is a second one. Since the existing capital stock has been accumulated over a certain period, the ratio of capital stock to output depends on the fraction of output invested, and on the rate of growth of output, during that period. More precisely, the net ratio of capital stock to output will approach the ratio between this fraction invested and the rate of growth. For example, if the net fraction of output invested in the United States is taken as 12 per cent, and the rate of growth of real output as somewhat above 3 per cent,[2] then the net ratio of capital to output will be between 3 and 4—a range reasonably close to Kuznets' coefficients. Similar results can be obtained from the calculation in gross terms. Thus the size and stability of capital coefficients over time may depend less on technological factors than on the rate of growth and the fraction o income invested. Over a long period of time, the ratio established by these latter forces can hardly differ greatly from that required by technological

[1] The first two columns are from the papers by Goldsmith and Kuznets given in note 2 on p. 236 (p. 297-98 and 82)i My own coefficient was computed as follows: from Goldsmith's estimates of reproducible tangible wealth without consumers durables (ibid., p. 306-07) all inventories and international assets (including gold and silver) were excluded to obtain an estimate of fixed capital only. The latter was divided by 0.6 to obtain an estimated figure gross of depreciation. Then inventories were added back. The figure for 1948 also includes 75 billion dollars of durable military assets, obtained by accumulating expenditures on military assets in 1929 prices for the period 1939-48 from Goldsmith's table on p. 312 of the above source. The break in 1900 arises from two methods used by Goldsmith to compute the capital stock for that year. The denominators were Kuznets' estimates of gross national product given in *Annual Estimates of National Product 1869-1949*, National Bureau of Economic Research, March 1951 (mimeographed).

Cf. Kuznets, *National Product since 1869*, New York, 1946, p. 50-51, 115; *Survey of Current Business*, Supplement, *National Income and Product of the United States, 1929-50*, Washington, 1951, p. 146-50.

conditions; how large a disparity can persist in a capitalist society I do not know.

Disaggregation by industries eliminates this second relationship between capital and output, but the problem of capacity remains. Its measurement is not simple—if not impossible. Ignoring standard questions, like the effects on multiple shifts, reorganizations, redesigning, research, etc., we tackle a different aspect of capacity. Are assets removed essentially because they wear out with use and time, or because they become technologically obsolete?

Perhaps the question can be best put as follows: suppose a certain amount of gross investment takes place. Any calculation of the corresponding increase in capacity should make some deduction for the destruction of capital. But what should be deducted: an allowance for depreciation which is a function of the total stock of capital; or the values of the actual retirements of capital assets which, in real terms, simply equal investment undertaken x years ago? Should depreciation or the cost of replacement be deducted from gross investment?

It is usually taken for granted that, barring price changes, depreciation and replacement are identical.[1] Then the problem does not arise. But this is true only in a 'stationary state', another favourite of traditional economics. In a growing economy, there is a permanent gap between depreciation (computed by the straightline method) and replacement, defined as the cost replacing assets acquired a number of years earlier. Perhaps this calls for of explanation.

Let m indicate the average longevity of capital, and let gross investment undertaken m years ago, and hence present replacement cost, be equal to G. Since investment was growing over the last m years, the present gross stock of capital will exceed Gm; hence, depreciation ($1/m$ of the present capital stock) exceeds G. *Ergo*, depreciation exceeds replacement.

As depreciation exceeds replacement because of the growth of investment over the preceding m years, it is obvious that the excess would increase with a higher rate of growth (r) and with a longer m. In fact, it varies directly with their product rm. If the average American m is taken as 25-30 years, and r (in real terms) as somewhat above 3 per cent, replacement will be below 60 per cent of depreciation. In other words, the frequently assumed identity between replacement and depreciation overstates the former by some 40 per cent of the latter. In a more rapidly growing country, like Russia, this overstatement can easily reach the amazing figure of 90 per cent or more. The same is true for some rapidly growing American industries.

The disparity between depreciation and replacement does not only arise in a steadily growing economy. It is even more obvious over the cycle. During a prosperity phase (as in the United States since 1946) a large increase in capital stock takes place and depreciation charges rise. But since much of the capital is new, replacement requirements decline and the increased difference between the two may be an important cause of depression. However, after several depressed years, capital stock and depreciation charges decline, while replacement expenditures, caused by the aging of capital, increase and may temporarily exceed depreciation.

This distinction between depreciation and replacement assumes that capital assets retain much of their productive capacity until retired. If, instead, their

[1] That a new firm may need no replacements for a number of years after its organization is obvious. For a more thorough treatment of this whole problem see E. D. Domar, 'Depreciation, Replacement and Growth', *Economic Journal*, vol. 63, March, 1953, p. 1-32.

productive capacity declines gradually, in rough proportion to accumulated depreciation charges, then depreciation and replacement become identical, and our problem disappears. While the above assumption that assets do not need replacement until actually retired is an extreme case, the accepted identity between replacement and depreciation occupies a similar position. The truth, as usual, lies somewhere in between; its exact position may differ from country to country and industry to industry. In the U.S.A., where assets are usually well-maintained and retired because of obsolescence rather than physical deterioration, they may well retain much of their productive capacity until actual retirement; in less advanced countries, the opposite may be true. In any case, the problem cannot be dismissed without a strong possibility of committing a serious error.

If assets do retain much of their productive capacity to the end, increased capacity should be related to gross investment minus replacement, rather than minus depreciation; the gross coefficient is more meaningful than the net, though perhaps some average figure is likely to be better than either. For historical or theoretical studies this may be satisfactory; for practical problems it is the marginal rather than the average capital coefficent that is needed, and they need not be identical. Technological progress changes many input coefficients, including that of capital; also the various parts of the plant and equipment of both firms and industries are seldom kept in ideal proportion; some have spare capacity, others do not. So a small expansion of output may result in a capital coefficient quite different both from the average and from that required by a larger increase in output. Technological progress usually reduces labour inputs; the marginal labour coefficient is below the average one. With capital, however, such a generalization cannot be made; the marginal capital coefficient can be equal, or higher or lower than the average.

So far, we have mostly dealt with the whole economy. The meaning and stability of aggregate capital coefficients, like those of any average, depend on the variability of coefficients among industries. Here the situation is so discouraging that one wonders if the aggregate coefficient has any practical use. Leontief's work shows that the largest gross capital coefficient (7.1, in housing) was 100 times the smallest (0.07, in the clothing industry). These data are for 1939, but it is unlikely that the relative magnitudes have changed. After housing, we find petroleum and natural gas (4.3), communications (3.6), railroads (3.2), transportation n.e.c. (3.0), electric public utilities (2.7), transoceanic transportation (2.6), etc. Other low coefficients are for construction (0.076), leather products n.e.c. (0.110), tobacco manufactures (0.119), etc.[1]

If capital coefficients differ so much between industries, why have the coefficients for the economy been so stable over time? To a considerable extent this was caused by inter-industrial shifts. As Kuznets notes, 'the rise in the intra-industry ratios in agriculture and the mining-manufacturing sectors was largely offset by the decline in the ratio in the transportation and the public utility sector'.[2] Secondly, the capital stock of a country changes rather slowly; the rate of growth in the U.S.A. has been about 3 per cent. With output completely constant, some 23 years would be required for the aggregate capital coefficient to double. But output has not remained constant;

[1] Op. cit., p. 220-21.
[2] Kuznets, op. cit., p. 128.

this brings us back to the 'other' relation between output and capital, already discussed.

A remarkable concentration of fixed capital in the U.S. is revealed in Leontief's work. Of the total capital 34 per cent was in home-renting; another 12 per cent in steam railroads; these two fields taken together contained almost one-half of the total fixed capital. Next comes 8 per cent in agriculture and 5 per cent each in trade and in electric public utilities. Of the first 10 industries, responsible for 80 per cent of the total, only one—steel works and rolling mills—belongs to manufacturing. The remaining four industries comprise petroleum and natural gas, other services, communications, and finally transportation n.e.c.[1]

A comparison of capital coefficients for a number of industries in several countries (U.S., Australia, New Zealand, Canada, etc.) shows the same basic pattern.[2] Capital requirements in early stages of economic development can be high, particularly if development is directed by consumers' preferences, when housing will absorb much of total investment. Other industries required early—port facilities, roads, etc.—are also heavy users of capital.

The distribution of fixed capital by industries is not identical with the distribution of investment, for the amount of fixed capital in a country is also dependent on the longevity of capital.[3] Houses last longer than machinery, so a smaller fraction of current investment in housing is needed for replacement than in manufacturing; a larger part represents an addition to the stock of houses. Thus relative magnitudes of capital coefficients among industries do not tell the whole story. An economy which concentrates investment in industries with low capital coefficients need not grow faster in the long run. Taking industries by broad sectors, we find a distinct positive relation between the life of capital and the capital coefficient. The group with the most durable capital (31-40 years) includes housing, steam railroads, etc., also characterized by high capital coefficients.

The development of industries with high capital coefficients is often compensated by the longer life of their fixed capital. A country constructing many such industries will start slowly, but will grow more rapidly later. One pursuing the opposite course may face replacement difficulties later. If capital coefficients and the longevity of capital can be varied, some optimum combination can be worked out.

Our emphasis on the relation between capital and output may appear as a backward step towards the traditional treatment of capital (with fixed capital emphasized), land and labour as the three factors of production. A balanced picture of economic development would of course need to study not only the labour and capital coefficients, but also a large number of other input coefficients. Some weighted average of the changes in all these coefficients, as suggested by Leontief, appears to me the most promising index of technological progress invented so far.[4]

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[1] Leontief, op. cit., p. 225. It should be noted that these percentages exclude most publicly owned capital, such as highways, ports, schools, etc. (see their note 22 on p. 223-4). Kuznets' estimates (op. cit., p. 118) do not reveal as great a concentration of capital in housing—only 21.4 per cent in 1938. But his definition of total capital is more inclusive than Leontief's.

Leontief, op. cit., p. 214-16.

[3] For a distribution of investment by industries see J. Frederic Dewhurst and Associates, *America's Needs and Resources*, The Twentieth Century Fund, New York, 1947, p. 373-410; U.S. Department of Commerce, *Markets after the Defense Expansion*, Washington, 1952, p. 35; and the recent issues of the *Survey of Current Business*.

[4] Leontief, op. cit., p. 27-47.

DISCUSSION

The joint discussion on the above two papers was opened by MR. VERDOORN, who was concerned over the limited applicability of the conclusion that the capital-income ratio of the U.S.A. had been constant for some fifty years. Once normal structural development accelerated, as was intended in underdeveloped areas, such constancy could not be expected. For the constant U.S. ratio was partly the result of trend factors like improved (capital-saving) production methods, partly of the shorter average life of assets. An undeveloped country wishing to raise income very rapidly could not rely on such trend factors.

That a rapidly increasing national income raised investment needs was shown statistically by studying physical indicators like horse-power. Horse-power installed in manufacturing appeared to rise in the ratio 1.3 : 1 with industrial output. Ernest Olsen had shown that, in 20 countries, total energy used had increased in the ratio 2 : 1 with real national income.[1] MR. DOMAR would not commit himself to saying whether, over a long period of time, capital coefficients rose or fell, or whether capital was deepened or not. He supported the negative conclusion that there was no case for supposing that capital coefficients rose as economies progressed. *Ceteris paribus*, it was best to assume that capital coefficients remained constant.

MR. DUPRIEZ felt Mr. Cairncross's report was a little startling in playing down the importance of capital. But Mr. Habakkuk had also claimed that, historically, there had been little difficulty in acquiring capital. In short-run theory, capital was inevitably a central feature. In the long run, the supply of capital probably did not even mainly depend on personal savings. Long-run innovations and changes in entrepreneurial activity need not require extra personal savings; the capital supply matched the amount of progress desired by entrepreneurs.

MR. GUITTON thought it was reasonable now to abandon the idea that capital 'deepening' was very important. The stability of the capital-output ratio raised doubts about capital-deepening as an index of economic progress. But the figures were only aggregates for a single country; he would like to see other studies of the same problem in Europe and elsewhere. One could thereby study capital-output ratios at various stages of development, find how stable they were, and discover the capital-output ratios likely to be met with in future. Leontief-type analysis was also valuable, because it showed divergences between capital needs in various sectors.

MR. FRIEDMAN stressed the growing importance of human capital as countries developed. Though in Western countries human capital provided some 70 per cent of output, the numerator of the capital income ratio only included non-human capital. The denominator included the services of both. Thus the puzzle was not why the ratio had not risen but why it had not fallen.

MR. ELLIS thought an important point might have been missed. Perhaps we were too prone to think exclusively in terms of manufacturing industry. Mechanical aids in the kitchen, for example, were causing considerable 'capital deepening'. This was also true of developments in tertiary industry, and in education and public health.

MR. NIEHANS questioned Mr. Cairncross's argument that capital accumulation accounted for only a fraction of past economic progress. The argument that technical innovation need not make large direct demands on capital seemed at first sight to agree with experience in Switzerland. The most technically progressive industries, like chemicals, had borrowed little capital, whilst somewhat less progressive industries, like electricity, had borrowed much. On reflection, however, he had doubts. If the former industries financed their own development from profits or depreciation allowances there was nevertheless a demand for capital. The problem should be studied by a dynamic analysis rather than by the average figures in the reports.

MR. CAIRNCROSS thought that his paper might largely be a reaction against the

[1] *American Economic Review*, May Supplement, 1948, p. 502-22.

post-war emphasis on capital shortage, and the resultant inflation. Nevertheless, inflation did not necessarily mean capital shortage everywhere, and the situation could change rapidly. Unless there had been very great changes in the basic conditions of the world economy since 1939, it might well prove impossible in future to make use of all savings. The rate of capital accumulation was much greater now than between the wars. In the past too much weight had been laid on capital. Perhaps it was now necessary to change the emphasis.

MR. MILLIKAN broached the need for more empirical research into technological change. Production functions were liable to change, and rapid change; but the measurement of technological change was hampered because no single index could represent shifts in production functions. Much information was already available, if only from input-output data. These highly measurable factors needed measuring; technical production coefficients should perhaps be calculated separately for 100, or even 200, categories. MR. CAIRNCROSS agreed. He thought it strange that economists had recently concentrated so much attention on national income and so little on capital. It ought to be possible to study capital coefficients in different areas, but perhaps what was needed was not so much current coefficients as a rough indication of trends in the pattern of investment. One could then see what determined total capital investment. Much of the recent increase in industrial investment represented an effort to supplement the supply of capital by substituting capital for land.

Depreciation was next discussed. MR. MOSSÉ thought the depreciation and obsolescence of capital a major obstacle to economic progress. In a free economy, increased investment in one firm might increase depreciation in another. This form of 'external diseconomy' was important, but impossible to measure. In a private economy each firm merely considered its own benefits from 'progress' ignoring depreciation caused elsewhere. Thus economic progress appeared more favourable than it really was. There was a danger that those hurt by such progress would raise economic and social barriers to further advance.

MR. KEILHAU felt that the depreciation problems arising where there was economic progress could be illustrated from shipping. A ship built in 1935 could not be replaced by an identical ship in 1953. Capital outlay would therefore be much greater in 1953 and companies needed reserves to pay for such progress. Thus progress in itself caused differences between depreciation charges and replacement costs.

An important discussion on capital in underdeveloped areas was opened by MR. MILLIKAN, who urged economists to discover whether the major capital investments were primary or secondary effects of innovation; for instance, was the secondary demand for capital caused by urbanization greater than the original demand for capital by the industry causing it? He hazarded the view that in the past the shift to urban areas had been the main capital cost of progress.

Backward areas appeared to be facing two key problems. First, the important one of factor proportions. The Western technologies were largely based on labour-saving devices and these did not help overpopulated backward areas. This raised the question of how far technical considerations limited factor substitution. It would be very useful if economists and engineers could study such production functions and show whether they were flexible enough to allow considerable changes in factor proportions in underdeveloped areas. The second problem was whether backward areas could avoid urbanization. Research into the costs and benefits resulting when urbanization was avoided would be extremely useful.

MR. ELLIS regarded investigations into the rigidity of production functions as important. Perhaps the correct view was that underdeveloped areas needed some capital very badly indeed; but not very much capital. MR. CAIRNCROSS thought that the question of whether one should avoid building towns in backward areas interacted with that of population. Populations might well grow less quickly in towns; perhaps urbanization was a cost which had to be paid to avoid rapid population increase.

MR. LANG felt that there was no reason for supposing that an increase of capital would by itself set off 'a cycle of industrialization'. Yet economists and politicians were always discussing capital, and whilst development plans differed between countries,

and not all countries would benefit from massive injections of capital, the lack of capital was serious in all underdeveloped countries. It was particularly important to consider capital problems carefully now that underdeveloped countries were beginning to develop. Conditions in advanced countries during their rapid economic development were different from those in contemporary underdeveloped areas. The advanced countries used trade under the colonial system as a means of capital accumulation. Conditions at home meant that a considerable part of their growing incomes was turned into capital; nor did the developed countries face difficulties in applying new techniques and in dealing with growing populations. The underdeveloped countries faced quite different conditions. Many had been subjected to economic and political domination; that was important in determining their development. In many cases their social structure prevented even the existing limited possibilities for applying capital from being used to best advantage. Besides, the modern capital-intensive technology meant that underdeveloped countries faced many problems that did not affect advanced countries.

Balanced growth in a backward area could not be achieved without much investment —more investment than was possible with unaided domestic capital accumulation. The fundamental necessity was neither to exaggerate nor yet to underrate the importance of investment in developing backward areas.

Mr. Ellis remarked that capital was not moved to the underdeveloped countries from the U.S.A. because it was less productive in the U.S.A. Yet there were good prospects for capital in backward areas. He wondered, however, why, if the productivity of underdeveloped areas could be considerably increased by relatively simple means, investment there was deterred. Perhaps political reasons were as important as any.

Mr. Cairncross thought this raised the question of the stage of economic development at which most capital was needed. It was likely that, to begin with, underdeveloped areas needed a large and very expensive increase in investment; afterwards savings might rise almost automatically to cover industry's needs. It was important to distinguish between investment in response to market changes, and situations where the market itself had to be changed, by investment in key sectors.

Mr. Hicks felt that this discussion might well represent 'a stage in a turning point' in capital theory. Keynes had shown how the demand for consumption goods responded to increased total income. Others had considered the derived demand for investment, and had produced the accelerator analysis. The present discussion began from Mr. Domar's important figures showing differences between capital coefficients in various sectors.

Probably the accelerator did not do much to explain economic growth, because economists had clung to the Keynesian, two-sector economy. We now needed more intensive studies of a many-sector economy—to distinguish how, at various levels (and distributions) of income, a marginal increase in income could react on these various sectors and on their demand for capital. Also, we must consider both saving by private individuals and companies, and saving occurring because, with progress, replacement could be made at a lower relative cost. Such a development, backed up by inductive studies, should add much to our knowledge of the process of economic growth.

Nor was it only increases in income through the consumption function, and the effects of input-output relations on saving, which should be considered. It would also be necessary to allow for population growth, the age-distribution of the population, and redistribution of income both nationally and internationally. All such problems could—perhaps should—be studied both by theoretical and inductive research.

Mr. Papi thought public investment needed mentioning. It had long been realized that the multiplier effects of increased public investment could raise national income. But it had not been sufficiently realised that public works in underdeveloped areas could lower both costs and commercial risks. Irrigation might bring larger crops, reduce costs, and thereby increase consumer demand. By such irrigation, agricultural communities could secure permanently increased incomes.

Finally, Mr. Guitton made 'a demographic observation'. The relative importance

of changes in death and birth rates probably affected economic progress greatly. The kind of housing or health services needed were quite different where populations had not yet begun to develop. It was also important not to overlook the population's age-structure. Underdeveloped countries might be identified by their age-pyramids, which were measurable. It might therefore be useful to study the relationship between population structures and economic progress.

TECHNOLOGY, INNOVATION AND INTERNATIONAL INDUSTRIAL TRANSFORMATION

ERIK DAHMÉN

Modern business cycle research has concentrated on the study of aggregates like investment, income and saving. In the process, the concrete content of these total categories has been abstracted. The connexion between variables like investment as an undifferentiated category and total income, saving, etc., has attracted most attention.

The advances made by such business cycle research are significant in that they have, broadly speaking, explained the various aspects of cumulative processes and their international repercussions. However, little interest has been shown in factors like entrepreneurial activity and its prerequisites, and in the introduction of new products and new methods. Most important has been the neglect of problems caused by such innovations, for example, obsolescence. The transformation which proceeds unremittingly in a dynamic society has not been adequately studied. Admittedly, interest has been shown in 'structural changes in industry and trade'. But an interest in once-for-all changes, like the expansion of the capital goods industry by the building of new steel works, and their effects on the industrial framework, is not sufficient. One must also study, for example, competition between these new steel works and older ones.

Interest in growth analysis is now increasing. The results of such analysis can be particularly valuable if a 'purely economic' approach is avoided. It is nevertheless questionable whether such analyses can serve the same purpose as analyses of the transformation arising from the continual struggle between old and new. To study this struggle as a long-run phenomenon, changing both the terms of reference and the data of business cycle analysis, is of little value. Much more useful is searching historical analysis of the process of industrial transformation and its relation to business cycles. A realistic causal analysis requires the integration of conventional macro-economics with transformation analysis. Alone, each is insufficient.

The best point of departure is Schumpeter's theory of economic development. I emphasize the developmental nature of Schumpeter's theory, since I do not want to consider Schumpeter's theory as an alternative theory of business cycles. Rather it represents a method for the detection of periodic phenomena different from those of the business cycle. It is a necessary way of complementing current business cycle analysis with transformation analysis However,

the analysis should not be limited to using the concept of 'innovation' alone. Macro-economic analysis has been refined by the use of many ingenious concepts, and the development of the central concepts of transformation analysis is still in its infancy.

In extending transformation analysis, one should not lose contact with empirical raw material; it should be presented in the same work as historical study. First, this resists the temptation to work out abstract theoretical models whose empirical testing at best depends on casual sampling of scanty data. Second, it makes clear the principles on which the empirical data have been selected. Third, the explicit formulation and analysis of problems connected with a sequence of concrete events serves to stimulate other investigators and to facilitate co-ordination with other social sciences.

The period 1875-95 in Sweden saw many innovations connected with lively activity in the founding of new enterprises, primarily on the initiative of commercial capitalists. Development was rapid, but the depressions were long, partly because of the 'negative side' of development; that is, because so many economic and social institutions gave way in face of the new growth within the country or of the impact of innovations abroad.

Between 1895 and 1914 business fluctuations of an international character spread to Sweden, partly through the international monetary and capital markets. Foreign innovations did not affect Swedish industry so strongly as in the previous period. Depressions were relatively short; partly because the struggle between old and new in Sweden was less intense now that pre-industrial institutions had practically disappeared. Furthermore, Swedish export industry carried the brunt of the expansion without creating difficulties for older industries at home. Finally, cyclical declines tended to be short, although violent, partly because new 'developmental blocks' (a concept emphasizing the interdependence of industrial development) had matured. Some inventions could not become innovations before complementary progress took place elsewhere in the economy. For example, the production of cement could not develop fully until firms of building contractors had grown up which used cement. Again, a lasting success for the electrical industry depended on innovations and the development of enterprises in other lines—some of them abroad—the expansion of which created a demand for the products of the electrical industry.

Although the component parts of many developmental blocks were being combined before 1914, the process sometimes failed because such parts could not be co-ordinated. The capacity to develop entire blocks was limited, partly because of the disturbances caused by international cyclical downturns, which periodically made many projects appear unprofitable. Such 'structural tensions' which prevented developmental blocks from developing completely became acute when the field for relatively adequate forecasts shrank, and when credit difficulties arose. Once more adequate and inclusive forecasts were possible and the credit situation improved, such 'structural tensions' represented strong expansionary forces. The completion of developmental blocks contributed to the tendencies toward financial concentration which were typical in 1895-1914. Men who could both foresee the potentialities of a developmental block and had the capital resources needed to bring it into being could sometimes acquire the incompleted block on favourable terms from those unable to grasp its potentialities. Indeed, such men often encouraged the growth of developmental blocks by purposely stimulating their

various aspects, for example, the technical ones. Later projects could be profitably combined, and their capital values increased. Thus development was hastened directly and, because loans could be floated more easily against the security of the capital values, also indirectly. Thus, in turn, capital resources for investment in new entrepreneurial activity could be acquired relatively rapidly. The process was cumulative.[1]

The inter-war period has been studied in more detail than that from 1875-1914.[2] To distinguish types of economic growth, it is useful to distinguish intrinsic and extrinsic market expansion. Intrinsic market expansion means that the driving force for expansion comes from the industry in question; its products become better known and/or the demand for them increases, because of a price decline (based perhaps on innovations in production methods). Extrinsic market expansion means growth independent of special action by the industry in question. The continuing connexion between the character of the expansion and the creation of new enterprises, their development, and their demise, seen either against the background of the 'negative side' of the economic development or in relation to malinvestment remains central.

Many innovations occurred during the 1920's, a striking proportion originating in the experiences of war production in the U.S.A. Their arrival was abrupt, and a large proportion of Swedish industry was simultaneously confronted with strong foreign competition arising from innovations. The combined effect was great. While some industries enjoyed favourable economic conditions with a strong element of intrinsic market expansion, others continued to experience unfavourable conditions, partly because of those which widened their markets. The mortality rate of enterprises was great. More than 20 per cent of enterprises existing in 1919 had ceased to operate by 1929. A large proportion of those remaining was forced to reorganize and undertake new lines. A new element now appeared: fixed capital became obsolete more rapidly than previously. Old and new firms often continued to compete as long as real capital was not physically worn out, with abnormally keen price competition driving down the profitability of even modern enterprises. Not until about 1929, when replacement of obsolete plant and equipment became necessary, though often impossible, was this particular pressure lightened. No government measures protected obsolete firms, and the liquidation ran its course while other groups enjoyed good business conditions. Unlike events in many countries, the 'negative side' of Swedish development was well-synchronized with the 'positive side'. By 1930, most of the necessary liquidation had taken place. Little obsolete capital remained to be swept away by the depression, when even modern enterprises began to base prices on variable costs, leaving obsolete firms with no chance to compete.

By the early 1930's many industries were on the threshold of intrinsic market expansion. Many original contributions had become well-known but not copied, partly because of financial difficulties, following the severe financial

[1] Because of the space which a concrete presentation of the significance of developmental blocks for the process of industrial development would take, it is not possible to go into greater detail here. It should be noted that the concept, developmental block, ought to be differentiated: (a) intentional developmental blocks, organized by a single entrepreneur or an entrepreneurial group; (b) intentional developmental blocks, organized by several entrepreneurs independently, but with knowledge of each other's plans; and (c) unintentional developmental blocks. From the point of view of causal analysis (a) and (b) are the most interesting, since it is in these types that typical motives and intentions are in play.

[2] In the author's work *Svensk industriell företagarverksamhet 1919-1939* (Entrepreneurial activity in Swedish industry), Stockholm, 1950.

crash 10 years earlier. Strikingly, not only had many innovations not had time to spread throughout an industry, but also many had still not been applied except in the industries where they originated, even though their application elsewhere was clearly practicable.

The depression which reached Sweden via a decline in exports in the early 1930's was serious, although it was relatively short and was followed by an exceptionally rapid recovery on a broad front. The rate at which firms went bankrupt was only slightly greater than in the preceding boom. One reason, mentioned above, is that the depression did not strike Sweden when the internal boom had exhausted itself, and the extent of malinvestment had not been great. Firms which went out of business did so, not because they had invested 'too much', but because they had invested too little. Another reason was the lack of any significant pressure from foreign innovations. This had been more important throughout the 1920's. In short, transformation analysis shows that the Swedish economy was experiencing a rapid and general wave of expansion when the foreign-induced depression began.

During the inter-war period recruitment of entrepreneurs began to shift from persons in commercial occupations to workers, foremen, and the like. This was a function of two changes: the need for small enterprises with no large capital resources increased; the higher economic and cultural standard of the working class helped to widen the recruitment base. This shift in recruitment had certain special effects.

First, it meant that more enterprises were started during years of unemployment than during good years. Most of them remained stationary, partly because the new type of entrepreneur never intended to create an expanding business. Further, the tendency to produce for the home market—with which the worker-entrepreneur could most readily make contact—had increased. This significantly sharpened competition in some lines, making organized limitation of competition more difficult. This was often a progressive element. Sometimes, however, the effect was the reverse. For example, if the entry of new firms was exceptionally easy, highly capitalized modern enterprises found difficulty in surviving. Small firms which fell by the wayside were continually re-established with new capital and new leaders, often the firm's own workers. Thus firms continued, covering only variable costs, often reckoned at a low rate and including abnormally large contributions in labour from both management and workers. This continuous supply of new entrepreneurs held prices below the equilibrium level, industries easily deteriorated, and both productivity and the frequency of innovation fell. Sometimes, however, extensive market expansion brought rapid growth.

There is much to be gained from analysing developments in different countries in the light of the transformation process. International cyclical fluctuations have been analysed mainly in aggregates, with emphasis on the spreading of expansive or contractive impulses between countries. The influence on international fluctuations of the transformation process, with its special character in different countries at different times, and the connexion between the transformation process in different countries has received less attention.

It is natural to examine first the reciprocal influence of the relationship between the development of technology and entrepreneurial activity in countries with differing social and political characteristics. Such investigations, begun during recent years, should be particularly significant if woven into

a broader transformation analysis and combined with business cycle theory. As one step in this process of co-ordination, the relationship between entrepreneurial activity in different countries should be studied. To what extent has the industrial development in a given country been transferred to others through the demand for its products; to what extent through the direct or indirect influence of entrepreneurial activity? This latter influence is probably more significant than is usually assumed. Certainly, a study of Swedish industrialization during the period before 1914 shows that foreign entrepreneurs were active in Sweden, and Swedish entrepreneurs were active abroad, perhaps trying to create markets or to obtain raw materials, and doing both within the framework of 'developmental blocks'.

One could hardly over-emphasize the role of international capital movements in this connexion. Capital exports often result from specific projects in industry or transport. For example, firms producing special products take part directly or indirectly in the export of capital with the intention of creating markets for their own products. Such capital exports often appear natural to the importing country, since in many cases they need not only to import capital, but also entrepreneurial and technical services. It is tempting to compare the relative importance of such capital movements with those arising from the more 'passive' desire to obtain higher rates of return and/or greater security than exist at home.

Every historical study of the international transformation process gives numerous examples of aspects like the impact on business cycles of the tug-of-war between innovations in one country and obsolete installations in another. Great difficulties have arisen from such a process. If other lines in such countries as were subject to pressure did not concurrently expand, unemployment arose. Again, political boundaries and geographical obstacles often hindered the mobility not only of labour but also of entrepreneurship and capital. Thus obsolete fixed capital was eliminated only slowly, sometimes because of explicit agreements within the country to retard such liquidation. How far this increased inertia made cyclical fluctuations more severe is uncertain. The question is, what effect has the degree of international synchronization between the 'positive' and 'negative' sides of the transformation process had on cyclical sensitivity in the world economy and on economic development in general? For example, how significant is the lack of such synchronization compared with the cumulative processes, and their accompanying malinvestment, which sometimes arise in different countries?

It is easy to cite instances where 'old' export items run into difficulties because countries which previously imported them now produce for themselves. Sometimes, industrialization has been early and rapid simply because of the growth of needs for a product created by the expansion of the market for the product of a foreign industry. One conclusion is probably that the existing international specialization and the consequently growing international trade depend to a large extent on frequent innovations in export industries. Market expansion, which depends on industrial expansion in other countries, generally weakens sooner or later. Thus export industries need innovations which help to create new products and new markets, to take advantage for example, of the differentiation of needs which accompanies increased living standards. The situation was simpler in this respect before 1914, partly because of the greater ease with which continuous contact with other countries could be

maintained, partly because of the international character of entrepreneurial activity. During the war, however, some countries expanded rapidly in certain lines, becoming more nearly self-supporting, and creating difficulties for the overseas industries which had previously supplied them. Since this familiar process is a permanent one, it is perhaps not the most important element *per se*, although it was hastened by the war. The most important new element was that innovations in exporting countries became significantly less frequent because international contacts deteriorated or ceased entirely. The prerequisites for entrepreneurial activity on an international scale, so important in spreading industrialization and economic development between countries, had been torn away.

DISCUSSION

MR. DUPIEZ thought Mr. Dahmén's studies interesting since they drew on real-life experience to link the theories of economic progress and of the business cycle. Schumpeter had contributed much by studying the creative role of the entrepreneur; everyone now knew that obsolete processes disappeared when progress occurred. Mr. Dahmén had now shown the institutional framework in which this elimination of obsolete plant and products occurred.

Mr. Dupriez agreed that we needed a theory of conjuncture linked with micro-analysis. In the 1930's Mr. Hayek had laid stress on chronic overinvestment, with the subsequent elimination of *Fehlinvestionen*. Mr. Dahmén was more correct in examining separately the investment processes of the boom and the elimination of obsolescent assets in the subsequent recession; for the new and highly capitalized processes of the latest boom were not those that disappeared. MR. DAHMÉN thought that there was a scarcity of theoretical systems. We had sufficient 'narration' but not enough analysis—especially of real investment and overinvestment. Perhaps the crucial need was to measure the transformation process. We might combine statistical evidence with more historical, and thus not accurately measurable, facts.

MR. FRIEDMAN referred to the long downswings in Swedish business cycles between 1875 and 1895, and the shorter ones later. The same phenomenon had occurred elsewhere. Between 1875 and 1895 the world's money stock grew more slowly than output, with steady downward pressure on prices. Later, the South African gold discoveries initiated a rapid increase in the world's money stock. Prices tended to rise, resulting in long expansions and mild contractions. Thus, in the United States at least, the differences in the length of depressions in the two periods were the result of simple monetary causes.

MR. DAHMÉN agreed that monetary factors might be important but did not feel that they conflicted with his own approach.

MR. NIEHANS thought economists should try to develop models of economic progress which could be tested. First, not only should the trend produce the cycle. The cycle should also produce the trend. Second, the progress of technical knowledge, though not its technical application, should probably be acknowledged as the motive force. Third, since no distinctive 'waves' could be attributed to the pressure of this force, the model needed some kind of mechanism. Here, accelerators, 'floors' and 'ceilings' might prove useful. Fourth, the model should explain the transmission of impulses between sectors by 'bottlenecks', price movements or 'developmental blocks'. Fifth, changes in population, in technical knowledge, and in the capital stock appeared so closely interrelated that it might be easier to deal with them simultaneously.

MR. DOMAR noted Mr. Dahmén's emphasis that every change 'hurt' somebody. An analysis of this 'hurting' process would be useful. In particular, one might consider

how progress was resisted. He also asked whether a slow advance was really easiest. A rapid increase in investment might sometimes bring escape from depression. MR. DAHMÉN however, was not convinced.

MR. HOFFMANN pointed out that long-period growth meant changing a complex pattern of production. To see the exact nature of this growth the individual components of time-series for groups of industries would need careful analysis. Sometimes, there were different tendencies within the same group. Second, any change in the quality of products made a time-series of doubtful value. Third, many time-series of production or consumption would not be linear, but S-shaped. The longer the period, the more likely this was. Unfortunately, statistics were often not available until an industry was already well developed.

MR. CAIRNCROSS noted that Mr. Dahmén tried to link business cycle analysis and transformation analysis, but this link was obscure. There was an interconnexion between cyclical fluctuations, industrial transformation and the process of innovation, but they were not influenced solely by events inside Sweden. Mr. Dahmén clearly had no intention of identifying his analysis with a study of cyclical fluctuations originating outside Sweden. Industrial transformation proceeded 'unremittingly', he had said. Nor was it clear whether he regarded innovation as a cyclical phenomenon. Innovation might follow a rhythmical pattern and yet depend on a steady operating force; just as biological growth took place in spurts.

MR. GUITTON thought it important to discover the principles lying behind Mr. Dahmén's research. Perhaps the continual struggle between old and young determined both the cycle and the general economic trend. Dividing the economy into various sectors conflicted with this problem of distinguishing between old and young. Perhaps the discussion could be more sociological. France had some industrial zones where very old methods of artisan production survived; these zones maintained high standards of quality. Could one explain such survivals in terms of the struggle between old and young? Again, might demographic methods of analysis help, for example, measuring the death rates of firms, or the age pyramid of enterprises.

Finally, MR. GIERSCH was puzzled that technological progress was always represented as an exogenous factor. Obviously both applied and fundamental technical research must be studied. Perhaps the connexion between technical research and the cycle was that each recession stimulated individual firms, and brought both increased technical knowledge and increased application of innovations, with beneficial effects on industrial efficiency.

SOCIAL ATTITUDES, ENTREPRENEURSHIP AND ECONOMIC DEVELOPMENT

ALEXANDER GERSCHENKRON

'Social attitudes' is not a very precise term; we are dealing here essentially with the significance for a country's economic development of popular evaluations of entrepreneurs and entrepreneurial activities. Even when so restricted, the problem remains vast.

Research on this problem is still in its infancy, but the Harvard Research Center in Entrepreneurial History has devoted much thought to an 'entrepreneurial approach to economic history' and has paid a good deal of attention to the question of social attitudes towards entrepreneurship. Professor Schumpe-

ter himself naturally predetermined some lines of research. Very early, however, a more comprehensive sociological framework was felt necessary. Such a framework has been developed over a wide range, with perhaps its most powerful and systematic expression in the theoretical structure erected by Professor Talcott Parsons and his associates.

In these basic theoretical studies,[1] increasing importance is being assigned to value standards as prime determinants of social action. The individual members of the community are seen as performing specific social roles. 'The primary ingredient of the role is *role expectation* which denotes what role individuals expect each other to perform. Compliance with role expectation is enforced through sanctions, and institutionalized into the community's generalized value systems. In a well-integrated society these values are accepted by individuals and the value system becomes the crucial determinant of action.

It is rather surprising that these concepts have attracted those interested in explaining economic change. The essentially static character of the present Parsonian system is obvious, but the system is still evolving and the impression is that its static character seems to be well recognized. Thus social dynamics is said to be included within the framework. At present, however, it seems fair to say that it is social status rather than social change which attracts most attention.

Nevertheless, both the static and the nascent dynamic elements in the system have excited the interest of entrepreneurial research, as evidenced in the symposium volume *Change and Entrepreneur*, published by the research centre.[2]

In this volume Arthur Cole explicitly mentions the degree of social approval which the entrepreneur's striving for economic gain will receive in a given economic milieu. Leland Jenks occupies himself in more detail with role factors. Dealing with the behaviour of men like the elder Morgan he stresses that, whatever the importance of accidental factors in the make-up of individuals, their actions cannot be adequately understood except in the context of cultural patterns.[3] But Jenks stresses the dichotomy between personal and social roles and claims that it is the existence of discrepancies between them which shows that significant social change is in the making.[4] One would expect the concept of entrepreneurial deviance to emerge as the primary device for understanding entrepreneurial behaviour and the entrepreneur's role as an innovator; but we are quickly led back to the fact that, for entrepreneurs, social roles are peculiarly 'indistinct' and 'flexible'.

Thomas C. Cochran's essay[5] is particularly interesting because he specifically redefines deviant behaviour and speaks of sanctions designed to 'encourage deviant behaviour'. Thus, deviance is simply associated with innovation, and represents an integral part of the dominant value system.

Where does all this lead? Are we witnessing a new theory of social change *in statu nascendi*? How can an economic historian use such tools to understand entrepreneurial behaviour?

This dynamic theory allows of economic change in two ways. First, a well-integrated society, where economic innovation has become a generally accepted

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[1] *Towards a General Theory of Social Action*, edited by Talcott Parsons and Edward A. Shils, Cambridge, Mass., 1952, p. 140.

[2] Harvard University Press, Cambridge, Mass., 1949.

[3] 'Role Structures of Entrepreneurial Personality', p. 131-2.

[4] Ibid., p. 138.

[5] 'Role and Sanction in American Entrepreneurial History, p. 160.

mode of behaviour, fits the system to a nicety. Since such innovation causes Schumpeter's 'creative destruction', the process of change will presumably lead the victims of economic change to adopt a personal system of values. But this system may either be neglected, or the community assumed to be so integrated that even the loser has thoroughly 'internalized' the social standard of values. This was apparently Cochran's assumption. Second is the original, non-denaturalized concept of deviant entrepreneurial behaviour—a concept intimated, but all too soon abandoned, by Professor Jenks.

Both concepts are, of course, meaningful. But in Cochran's society the Schumpeterian concept of innovation loses in interest. Schumpeter regards innovation as a 'distinct economic function' *inter alia* because of the environment's resistance to innovators and innovation.[1] Once the resistance of the environment is lowered 'personality and will power must count for less'.[2] Cochran's society has little resemblance to economies which stand on the threshold of industrialization and suffer from traditional resistance to economic development.

In a sense, deviance by spurning established value patterns may be regarded as a dynamic force making for change. But here our theories, both general and entrepreneurial, fail us. Nothing within the theoretical framework provides the elements of such an explanation, beyond some implicit and inchoate ideas about the tolerable degree of tension between deviant and generally accepted behaviour.

How important is social approval for the emergence of entrepreneurial activities, particularly when a country's economy is engaged in a sudden spurt of economic development? Should lack of social approval be regarded as a serious retarding factor? These questions cannot be answered except after extensive empirical research; the following tentative impressions are derived from scattered historical material.

The theoretical formula is persuasively simple: social approval of entrepreneurial activity is a contribution to its success. But doubts arise once historical material is approached. Take Augustin Thierry's *fermiers généraux*. Hated and despised, their very existence a negation of all prevailing standards of goodness and decency, perpetually accused and even persecuted, they prospered economically and socially, their entrepreneurial vigour unshaken.[3] Why did not social disapproval abolish that office? Perhaps because social sanctions are often too weak unless reinforced by the state, which may or may not reflect the dominant value system. Or, perhaps the apparent system of social values was underlain by another, actually operational, system. But we must beware: if we deduce social values from the presence of certain action, we have closed a vicious circle and prevented reasoned explanation.

Consider Russian conditions after 1850. Following the emancipation of serfs in the 1860's, former serfs are known to have engaged in various entrepreneurial activities. Again, their activities were at variance with the dominant system of values, determined by the traditional agrarian pattern. In innumerable adages, fairy-tales, and songs, folklore insisted on the unrighteous origin of wealth, but the activities still went on unchecked. Great fortunes were amassed, and great entrepreneurial innovations successfully launched.

[1] Cf. J. A. Schumpeter, *Capitalism, Socialism, and Democracy*, New York, 1942, p. 132.
[2] J. A. Schumpeter, ibid.
[3] Augustin Thierry, *Essai sur l'histoire de la formation et des progrès du tiers état*, Paris, 1856, vol. I, p. 108-10.

There is no doubt that during most of the 19th century, a grave opprobrium attached to entrepreneurial activities in Russia. Divorced from the peasantry, entrepreneurs remained despised by the nobility and the intelligentsia. In a sense, the populism of the intelligentsia was an attempt to espouse the value standards of the 'people'. Hence came the intelligentsia's aversion to the *bourgeoisie*, the acquisitive class.

But what of the value system of the entrepreneurial group? Were they deviants? They certainly were in their own behaviour, but perhaps not because their own standard of values differed from the dominant one. It took some time before Russian businessmen developed anything like an independent standard of values. They knew full well that by accepted standards their life was sinful; they tried seriously to make amends by donations to the Church. It is much more sensible, from evidence in letters and memoirs to speak of a profound *malaise* resulting from the discrepancy, not between two value systems, but between the dominant value system and social action that was at variance with it. From this conflict emerged the figure of the 'repentant merchant', so impressively depicted in Chekhov's *Cherry Orchard*.

One cannot deny that some changes occurred in the late 1800's. An independent value system of the entrepreneurial group began to evolve. One need only compare the merchant types of Ostrovsky's plays with the much more self-assured, self-reliant figures of Gorki's *Foma Gordeev*. A somewhat parallel change is clearly evidenced in the attitudes of the intelligentsia, as it broke away from the traditional populism and turned with the same radical fervor to Marxism.

One should not conclude that social attitudes towards entrepreneurs are unimportant. First, the existence of widespread social attitudes in Russia, patently unfavourable to entrepreneurship, may have greatly reduced the number of potential entrepreneurs. Even after 1900, Russian university students showed considerable contempt for work associated with business activity. 'Career' remained a shamefully materialistic word in the vocabulary of Russian students. This attitude presumably retarded industrialization. Yet it did not prevent the rapid industrialization of the 1890's, when the annual rate of industrial growth was about 9 per cent.

It is more likely that the lingering pre-industrial value systems led to the process of industrialization being compressed into periods of rapid growth. The barriers of routine, prejudice and stagnation mean that industrialization does not occur until the gains which industrialization promises have become, with time, overwhelmingly large, creating the prerequisites for a typical spurt-like upsurge. The character of industrialization is also affected by these attitudes. But it would be unreasonable to explain spurts of rapid industrialization in backward countries simply in terms of lags in social attitudes. Technological progress, the growing advantages of Nurkse's 'balanced growth', sudden institutional changes—all are causes.

We now discuss attempts to explain the relatively low rate of economic development in France.[1]

The thesis is simple: the character of entrepreneurial behaviour in France is one of the retarding factors in French economic development and

[1] Cf. D. S. Landes, 'French Entrepreneurship and Industrial Growth in the Nineteenth Century', *The Journal of Economic History*, May 1949, vol. IX (1), p. 45-61 ; John E. Sawyer, *Strains in the Social Structure of Modern France*, p. 293-312.

results from the prevailing value system. It explains, among other things, the smallness of French firms, their family character, the French entrepreneur's alleged conservatism and his aversion to risk. Again, the low social status of business turns talent to the 'traditional honorific careers'.[1]

It is perhaps unfair to seek the source of these views exclusively in general theoretical concepts. In part it is the *tertium comparationis* chosen by these authors that has influenced their thinking. Throughout, the comparison is with the U.S.A. But if the writers sought an explanation of the peculiar 'weakness of French industry and commerce', this comparison is hardly helpful. The proper comparison would be with countries of similar size, position and historical background, but more rapid economic growth, for example, Germany.

In fact, most of Professor Landes' factors exist in Germany. Pre-industrial social values were, perhaps, even stronger there. The family firm remained strong; the lower entrepreneurial echelons behaved much as in France. The picture is in any case one-sided. Landes has to play down vast and significant fields of French entrepreneurial endeavour-railroads, automobiles, banks, department stores. In the nineteenth century French entrepreneurial vigour sometimes exceeded that in Germany. The French supplied a whole series of momentous entrepreneurial innovations in retailing. By 1900, Germany still lagged in this respect. It was Felix Potin who successfully carrried through great innovations in retailing long before such ideas took hold in Germany.[2] When Landes is struck by un-American specialization in French food-retailing he should also express astonishment about the same phenomenon in Germany.

Admittedly the rate of German industrial growth exceeded the French from 1850 to 1900. Some determining factors are obvious. The lack of a coal basin comparable to the Ruhr for iron and steel making is one; the prevalence of the family firm with its unfavourable effects upon the flow of labour to industry is another. To assume that differences in entrepreneurial behaviour between France and Germany need *necessarily* be explained in terms of roles, role expectations and value orientations is surely unwarranted. Variations in entrepreneurial behaviour may have nothing to do with the dominant value system and the degree of social approval, but may result from varying income levels, living conditions, natural resources, etc.

In a sense, the same applies even to comparisons with the U.S.A. No doubt, differences in 'dominant value systems' can be easily discerned between France and the country whose economy has remained largely, though not completely, free from the influence of pre-capitalist traditions. One should beware of easy generalizations. But what is important is that, even when considering differences in 'value systems' between U.S.A. and France, there is a need for much careful and undogmatic research. Only then can one begin to form some idea of just how significant they are, as against the host of other incomparabilities between the two countries.

Perhaps some conclusion can be drawn from the foregoing discussion. A rigid conceptual framework is doubtless useful in formulating questions, but it always involves the danger that those questions will be mistaken for the answers. There is a deep-seated yearning in social science to discover one general approach, one general law valid for all time and all climes. But these primitive attitudes must be outgrown. They overestimate both the simplicity

[1] Cf. Landes, op. cit., p. 56.
[2] G. d'Avenel, *Le méchanisme de la vie moderne*, Paris, 1902, p. 174 *et sq.*

of economic reality and the quality of scientific tools. The economic historian can only hope to discover limited patterns of uniformity, perhaps with some explanatory value for some places and periods, but perhaps utterly inapplicable to others. This is fully true here. Paradoxically, the analysis attached to a general standard of values is best adapted to the case of, say, Navajo Indians on the one hand, and that of the present American society on the other—hence, perhaps the strong affiliation between anthropology and modern sociology. Serious doubts are permissible as to whether the theory of roles in its present form can be of much use for understanding processes of rapid change in economic systems, or for explaining events in rapidly growing economies.

The reservations go further. The preceding discussion may have seemed to skirt perilously close to the old question: does capitalism 'create' the capitalist spirit or vice versa? But the question cannot be: are social values important or unimportant? It must read first of all: what is the degree of persistence in value systems, what is their propensity to change, and in response to what factors? If something like 'coefficients of changeability' are attached to various value systems, one cannot fail to discover that the range of such coefficients must be wide. Certain values like attitudes of the peasantry seem immutable throughout long periods of time. It is perfectly reasonable to attribute to such values the well-known difficulties experienced by young industrial countries in building up a reliable industrial labour force. Yet, the same could hardly be said of entrepreneurial values. The volatile group of entrepreneurs may not be influenced by any discernable set of values; there may be a far-reaching divorce between their action and the general value system. Finally, even if a discernible set of special values can be attributed to the entrepreneur, these values are likely to be recent in origin and easily changeable.

Precisely because in historical reality entrepreneurs did not appear as disciplined actors, but entered the historical stage in response to the challenge of great economic and social changes, it becomes imperative, in dealing with entrepreneurial values, to examine their relationship to the environment, in the broadest sense.

But this does not imply that the conceptual framework used should be banned altogether. Economic historians must try to combine analytical tools provided by economic theory with those supplied by other social sciences. Nonetheless, an economic historian cannot help wondering how many additional insights can be obtained from a system which stresses one element, held rigidly constant, at the expense of others. We need a serious effort to establish, through empirical research, the spatial and temporal limitations within which such an approach is reasonable and defensible.

The use of modern sociological thought in entrepreneurial research, by Cole, Jenks, Cochran and others, has certainly been useful. It has opened interesting research possibilities and has created a challenge for the development of other research methods. The entrepreneurial approach to economic history is an almost virgin field of great promise. It may greatly enhance our understanding. But the promise would remain unredeemed if entrepreneurial research were to share the fate of most one-sided approaches, and to peter out in reiterations of jejune formulae.

On the other hand, the study of entrepreneurial actions, operating with more variables than in the theory of roles, and emphasizing change in the social

structure, would greatly increase our knowledge of social attitudes towards entrepreneurship.

DISCUSSION

MR. GOETZ GIERY felt that the subject was one about which much uncertainty was inevitable: the concepts, entrepreneurship and social attitudes, were neither measurable nor precise. It seemed to him that France's traditional value system had not usually been hostile to entrepreneurs, although many men wanted to become writers or lawyers instead. However, the situation might be changing. The public sector of the French economy was developing. Perhaps civil servants would become more respected and efficient. MR. GERSCHENKRON thought it was possible to exaggerate differences between existing value systems in the U.S.A. and in France. Even in more mercantile societies one found many men wishing to escape from commercial activity.

MR. RUEFF thought the conscious choice of a protectionist policy for French agriculture had kept many people on the land. If people stayed on the land when general economic progress was rapid, progress in industry and elsewhere was inevitably retarded. Nor should one ignore the almost continuous French inflation over the last 30 years. Long-term interest rates in France were now prohibitive. The state had been forced to carry out much investment. But the resources were limited. There was no *economie bouillonnante* as in the U.S.A. Again, building had lagged in France. The rent problem had not been solved; there was scarcely any private building, and the shortage of housing had immensely increased industrial rigidity.

However, he agreed that changes in nationalized industries might bring a spirit of enterprise among civil servants; but he thought trade union leaders still opposed increased productivity. MR. GERSCHENKRON agreed that state policy was important. The rapid development from 1850 seemed to depend on the liberal policies of Napoleon III. In the 1890's however, many great entrepreneurs failed because of the attitude of the French peasant.

MR. FRANKEL thought the 'Parsonian analysis' would gain and find support if applied to African experience. A long-established social system determined everyone's role and 'satisfied' him. Yet, after a radical change, no one remained helpless for long under the new changed social pattern. 'Economically displaced persons' sought new roles more rapidly than one might expect. In Africa, however, the new activities found for those deprived of old roles were often of a kind for which they were not ready. It was important to allow them to enter jobs that did suit them. There was also a too-ready acceptance by Africans of the Western idea that a technical bureaucracy could replace the entrepreneur in all conceivable directions. Yet the development of entrepreneurship took time. We tended to overlook that important fact. If we were patient, ready to wait for perhaps a generation, we should be amazed at the relative speed with which backward peoples could adapt themselves to entrepreneurship.

MR. HABAKKUK agreed that unfavourable social attitudes did not hold entrepreneurs back. Factors like the lack of education were much more likely to do so. But he wondered why the supply of entrepreneurs should rise suddenly when gains reached a certain point. It could hardly result from sudden changes in social attitudes.

MR. GERSCHENKRON argued that once an existing social situation broke up there was a very great increase in opportunities for economic development. People then took up entrepreneurial activities in large numbers.

IV. PUBLIC POLICY AND ECONOMIC GROWTH

OCCUPATIONAL MIGRATION AND TRAINING AS CONDITIONS AND CONSEQUENCES OF PROGRESS

ALFRED SAUVY

The work of Colin Clark and J. Fourastié has shown how economic development necessitates migration from the primary towards the secondary and tertiary sectors. Occupational distribution must have remained almost unchanged for several centuries; it 'began to move' between the seventeenth and twentieth centuries. As always with social phenomena, we must ask which is cause and which effect.

Imagine a group of workshops, fields, factories, whose production possibilities are exactly known. The optimum occupational distribution corresponding to this aggregate production could be fairly accurately determined. But optimum occupational distribution can, alternatively, be defined in terms of consumers' wants. Let us distinguish the actual distribution of the occupied population from the distribution needed to satisfy these.

Consider, then, a community with a given technique and a given distribution of labour force between occupations. Such an occupational population[1] can produce a given volume of output of various kinds, when working to full capacity with the existing technique. At given prices this total possible production represents a certain aggregate value, say, x dollars.

It is not enough, however, merely to distribute x dollars to consumers to ensure full consumption of all products. At the existing prices, each consumer will demand a certain continuation of products. It is as if he 'ordered' a certain number of working hours from various occupations. The total of all individual demands 'orders' a certain number of working hours from each occupation, and, assuming no overtime working, requires a certain occupational population. This is the required population, but it is not necessarily identical with the actual occupational population. It may include, for instance, more domestic servants and fewer lawyers.

Discrepancies between the actual and the 'required' occupational populations can be corrected in many ways. Two important ways are by changes of demand and by occupational migration. These two movements may take place either under the influence of changes in unit price or of changes in total activity and employment.

1. If all prices are completely flexible, price changes induce consumers to shift their 'orders', and labour moves towards the better-paid occupations. Thus the labour force is redistributed to some extent.
2. If prices are not very flexible, the consumers who are deprived of products because of delivery delays, etc., buy more of the freely-available products;

[1] The expression 'occupational population' is preferred to 'working population' because it better implies the idea of structure.

men who become unemployed (or underemployed) move into the fully-employed trades. The various flexibilities differ greatly. A man can change his consumption more easily and quickly than his occupation. With small distortions, changes in demand may re-establish equilibrium before occupational migration occurs. But this second change also begins ultimately in a market economy; thus an approximate equilibrium was maintained during the nineteenth century, when the two mechanisms between them removed small divergences.

Consider now an economy where the required and occupational populations no longer adjust. Prices, wages, etc., are too rigid; all possibilities of profitable changes in occupation have been exhausted. A very important phenomenon now occurs, for such distortion should reveal unemployed workers in some occupations, and unfilled jobs in others. If working time were extremely flexible, equilibrium could be re-established with underemployment in some activities and overemployment in others. In practice this is impossible. Any distortion causes visible unemployment for some people, without revealing unfilled jobs. Since overemployment cannot exceed certain limits, employment in other occupations falls proportionally. Indeed, if the government wishes to avoid inflation, both the national income and the required population decrease until the latter represents only a fraction of the actual labour force.

A 'vacuum' is impossible. In all countries, those who oppose immigration maintain that there is no 'vacuum', that there are no unfilled jobs. Such a 'vacuum' is noticed only in exceptional circumstances, when some accident has disturbed the occupational population, as happened with miners after the war.

In such circumstances, even an objective observer diagnoses surpluses—'too many tradesmen', or 'excess rural population'. Public opinion is always tempted to attribute structural unemployment to surplus population; it fails to see that unemployment results from labour shortage in certain other sectors.

Here is a curious problem of social relativity. If the complementary relationship between occupations were simpler, the point of view might be less Malthusian. In the case of only two sets of people, a correct view can be taken. If in an office, for example, editors and typists work together, any shortage of typists will 'force the editors into unemployment'. Inversely, if an editor is missing, a typist will twiddle her thumbs. The remedy is easy; add what is lacking or adapt the organization to meet the needs.

But in a complex economy the effort of imagination needed to make such adjustments is too big. Surplus workers in one trade do not say that they lack a 'complete economic circuit' of workers in other trades. Such unemployed men try to enter the existing circuit, thereby creating unemployment elsewhere. The delusion is strengthened because the same phenomenon happens also in subdivisions of those sectors where there 'happens to be a vacuum', thus producing the illusion of saturation, if not unemployment.

Thus, ideas in present capitalist societies are Malthusian. No one has suggested the slaughter of excess populations, but the unemployed are removed from the circular flow by subsistence grants, premature retirement, emigration, etc. Attention is concentrated on the depressed sectors; whereas the key to recovery lies in the prosperous ones. Progress is slowed down.

There are two kinds of distortion:

1. *Temporary, short-lived disturbances are due sometimes to external influences,*

sometimes to changes in internal demand. When arming, for example, a society needs more metal workers. Civilian and military needs compete and create a threat of inflation in this sector. To avoid it, total demand is reduced, creating unemployment elsewhere, say in textiles. The additional demand for armaments forces a changed proportion between metal and textile workers, and if metal workers fail to increase, textile workers decrease. Public authorities then tend to apply false remedies. They feel obliged to interfere in textiles; yet the solution lies in the maximum increase of employment and output in the metals industries. In practice, such short-lived changes in demand are hard to compensate by temporary occupational migration. Only in war is the effort made.

2. *Lasting distortions usually arise from technical progress.* Thus, the discovery of artificial dyes requires more chemists and fewer growers of madder. Unless occupational adaptation takes place, such lasting distortions may result either in underemployment in one sector or in subsidies to maintain the existing structure. Thus French silkworm cultivation is subsidized to compete with nylon. Messrs. Clark and Fourastié have shown how technical progress changes the occupational population. Food needs being limited, the required agricultural population first decreases, to the benefit of tertiary industry. If the occupational population does not alter appropriately the result is lasting.

There are two different reasons why occupational population does not change as it should. (a) *Natural inertia prompts those who are threatened to maintain their position.* In particular, the owners of capital claim governmental protection. (b) *Young generations enter the most pleasant or appreciated occupations,* particularly in tertiary industry. Such migration may be so rapid that it causes excessive growth in the tertiary sector.

In case (a) we can distinguish two kinds of adaptation:

First, mere changes in production that do not necessarily mean changed equipment, or retraining of personnel. Second, real innovations demanding costly investment or occupational retraining. We deal here only with the second type, which is usually painful, especially if it affects long-standing habits. The unskilled worker need not change his job but may need to move to another area. Skilled workers and intellectuals need some retraining, which costs effort and money. They consequently ask for protection. Entrepreneurs and capitalists may try even harder to avoid costly adaptation. Trade unions slow down the occupational migration required by technical progress and inevitably delay that progress.

Divergences between the actual and the required populations are found both where technical progress is rapid and where protection slows it down. No doubt, in rapidly changing economies, entrepreneurs carry out investment made necessary by new techniques. Where the pace of development is slower, the main concern is how to defend one's position.

Let us concentrate on the position of wage-earners. Occupational migration can take place either through migration proper—occupational change by an adult—or through the orientation and training of young generations. Such occupational migration can occur through attraction or rejection. Attraction occurs mainly in active economies and results from land-saving progress.[1] Workers, especially in agriculture, voluntarily move to better paid or less

[1] Defined on p. 262.

arduous jobs. Rejection occurs when firms reduce employment, either because of labour-saving progress[1] or of their own inefficiency.

With younger generations, attraction and rejection take slightly different forms. Rejection occurs, say, with the country dweller's son, threatened by underemployment, who must leave home without knowing where it will land him. Attraction is represented by the appeal of better paid, pleasant occupations which better education makes possible. Depending on the circumstances, the distribution of the occupied population lags behind or runs ahead of what is required. But attraction is a more important influence here than with changes of occupation.

Let us examine over-rapid migration. Rising living standards and declining birth rates enable more families to rise socially. The tertiary sector of the economy has a considerable appeal because it offers: (a) a higher standard of living; (b) a higher social status; (c) the possibility of further social advancement, not open to manual workers.

The consequent occupational migration follows its own specific rules and has little connexion with changes required by technical progress. At best, in a regularly developing economy, migration towards the tertiary sector evolves at roughly the required rate. But if development slows down, migration keeps its own considerable momentum. This has happened in various European countries, including France, for some twenty years.

We have already seen that only surpluses of workers become apparent; but these surpluses need not cause unemployment. They may cause underemployment and greatly reduced hours, particularly in the retail trade, or full-time jobs may be created simply because there are so many applicants, as happens in various private or public administrative departments. Had surplus workers not existed, arrangements using fewer workers would have been devised. Being neither unemployed nor fully productive, the swollen tertiary sector burdens the economy, through heavy taxes or inflated prices. Saving and investment are reduced and development slowed down. This phenomenon is not an advance making future progress easier. Indeed, the lack of balance fails to right itself and is self-perpetuating. Slow development in various European countries depends essentially on discrepancies between the actual and the required distribution of their labour forces.

Any study of technical progress and employment inevitably leads to the distinction between land-saving and labour-saving progress.[2] The distinction is:

Land-saving progress increases the natural environment (including equipment) in relation to man. It also increases the optimum population and tends to increase effective employment. For instance, in England, an increase in the quantity of meat produced on a given area by a given labour force is land-saving. It is as if the land had been enlarged.

Labour-saving progress increases man in relation to the natural environment and allows fewer men to use the same resources. If one man can cultivate 30 acres instead of 20, there is labour-saving progress.

However, changes in consumption resulting from such progress may attenuate its nature, or even make it land-saving. Consumption usually turns from primary towards secondary products; from secondary towards tertiary.

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[1] Defined below.

[2] These terms are used to translate Mr. Sauvy's *progrès processif* and *progrès récessif*.

Consumption moves further and further away from natural produce, and a larger population can be supported by a given area.

Land-saving progress creates local increases in employment and causes migration by attraction. Labour-saving progress causes local reductions in employment and causes migration by rejection. Past experience suggests that allowing for consumption shifts, technical progress is generally land-saving, at least in developed countries where food supplies are secure; some kinds of progress can nevertheless be labour-saving.

There are many instances of progress which reduces employment locally; this meets most resistance. Land-saving progress can provoke resistance from those who fear falling profits or rents. Workers themselves may demand protection rather than move to other sectors.

The real question is: should demand be adjusted to occupational distribution, or vice versa? In the short run, the first solution is more tempting. Demand is easier to modify, e.g. by subsidies. In the long run, this solution only crystallizes an obsolete structure. The distribution of the population between occupations must alter and price changes can hardly be sufficient for this purpose.

If the occupational structure adjusts itself slowly because of resistance in a particular sector one should distinguish the reactions of workers and entrepreneurs. If workers resist it is because they are victims of a progress in which they have not participated. To see this, consider two progresses, A and B. Both require the same investment, but A is more land-saving than B. The entrepreneur's profits increase more with B, but national income is larger with A. In effect, the entrepreneur ignores the costs of re-employing his redundant workers, or of making adjustments at the national level. Perhaps this burden should be imposed on entrepreneurs. Then their view of the order of priority of various kinds of progress would accord more closely with the national interest.

Compensation for firms which are the victims of progress is less necessary. The entrepreneur has gambled; he must suffer if his skill proves inferior. However, considerable inertia in certain sectors may make some subsidies to firms desirable.

The abnormally rapid growth of the tertiary sector is less susceptible to self-balancing influences, as all laws and regulations are written, conceived or suggested by tertiaries, and tend to favour them. Furthermore, any reflux of resources in tertiary industry towards direct production is difficult to organize. Social prejudices compensate for substantial economic differences. In particular, social regression is rare.

The best solution would be to replace the unsuccessful price-wage mechanism by some kind of direction of labour. Though difficult to follow because of its responsibilities, the path is indispensable in the medium and long run. Such direction requires at every moment perfect knowledge of numbers engaged and hours of work in all occupations, and of the general nature of the occupational migrations accompanying development. Such intervention represents a most valuable investment for a somewhat ossified society. It might even improve market mechanisms by giving correct information. Inversely, blind intervention affecting only non-human factors always encounters human resistance. Abundant information about the course followed would constitute a successful alliance between intervention and 'social automatism'.

In developed societies, obstacles to economic development are essentially

human. Man must be reached, known, trained, informed, if future progress is to be assured.

DISCUSSION

MR. COLIN CLARK felt that the paper gave a useful background to the French economy, with its excess of *petits fonctionnaires* and *commerçants*. Clearly, France had very great social mobility, but he hoped that he had misunderstood when Mr. Sauvy had seemed to suggest that direction of labour was necessary. MR. SAUVY replied that it was the distribution of the labour force which should adapt itself to technical progress rather than vice versa.

MR. FOURASTIÉ thought that the adjustment of the working population to produce just those goods needed to meet consumers' tastes was the basic requirement of economic growth. Whilst growth of *per capita* production was the essence of progress, production would scarcely rise by the same proportion in all industries. For such a rise in production resulted from the equating of two patterns, those of production and consumption. If this process were to occur without restriction of consumers' choice, there was only one variable—the distribution of the working population. He also felt that the distinction between land- and labour-saving progress was at the heart of the problems of under-developed areas. They needed the kind of progress which created new work.

MR. DUPRIEZ thought the short-run distinction between land- and labour-saving progress was fairly clear; but one should also consider long-run effects, for example on income distribution and on the organization of production. Most kinds of progress were land-saving in the long run because effective demand changed so as to absorb unemployed labour. MR. SAUVY said that the distinction between land- and labour-saving progress had often been made, more or less consciously, in practice, but needed to be firmly established.

MR. ROBINSON sought more information about the motive forces lying behind the redistribution of French manpower. Many people in Britain now believe that employment and unemployment were more important forces leading to labour redistribution than were relative wages, but there was too little evidence to allow generalizations. Was the evidence in other countries sufficient for such generalizations?

MR. BRINLEY THOMAS thought there were two indispensable freedoms—freedom of consumers' choice and freedom in the choice of one's occupation. Mr. Sauvy seemed to say that if these freedoms led to a distribution of the working population which did not fully satisfy free consumer demand, men must be deprived of their freedom of choice of occupation. This would certainly antagonize British trade unions. Mr. Thomas welcomed the suggestion that compensation might be given to the victims of technical progress. Perhaps the solution in regimes of full employment would be to scrap social insurance schemes and substitute an agreement whereby the labour unions agreed to disarm in exchange for security. For example, in Britain, the trade unions might agree to support the introduction of new, more efficient methods of production, provided that temporary compensation, on a progressively diminishing scale, was given to redundant workers. MR. SAUVY did not think Mr. Thomas's freedoms were incompatible with some government-inspired adjustment. Freedom was never complete. For instance, an unemployed worker who emigrated was simultaneously free and constrained. But he agreed that compensation for those workers made redundant by new processes was important. Such compensation should not attempt to maintain outmoded activities; rather should it be sufficient to enable workers to train for new jobs.

ECONOMIC POLICY AS AN INSTRUMENT OF PROGRESS

LOUIS DUQUESNE DE LA VINELLE

Whatever one's idea of progress, its essence is clearly in transformations of productive processes. Uncontrolled economic activity spontaneously develops various markets which determine the production and distribution of the social product, and all dependent social phenomena. Historically, market incentives have been favourable or unfavourable to economic progress; some market economies have progressed more rapidly than others. Since markets are the spontaneous product of well-developed economic activity, we distinguish two main economic policies: (a) those which abolish markets and replace them by conscious, systematic state control; (b) those where markets remain the 'steering gear' of economic activity, provided they can give specific direction to the economy. Such use of markets for political ends covers all non-authoritarian government economic intervention. We consider here only this second group.

We need a principle of classification. Government intervention in a 'non-planned economy' takes so many forms that one cannot judge their impact *en bloc*. We may logically distinguish types of political intervention according to the most fundamental economic categories; the market, supply and demand, and the entrepreneur.

ECONOMIC POLICIES AND MARKETS

Governments may establish markets. Usually this is merely a question of institutional establishment. The most fundamental prerequisite is to determine the juridical status of traders and of trading activities. Commercial law has profundly changed in the countries of the industrial revolution, and similar changes must now occur in countries embarking on such a revolution.

The government may help to establish markets by organizing suitable institutions. One thinks naturally of a difficult market to organize—the capital market. Capital undoubtedly encounters more obstacles in its rational distribution than any other factor. The supply of savings may be hoarded or 'ploughed back' by undertakings, so that capital must first be enticed onto the market by establishing close contact with savers. Demand difficulties may arise too. Many entrepreneurs dislike borrowing or cannot obtain suitable terms. Finally, borrowing and lending institutions need experienced technicians, and must engender confidence in their solvency.

Thus the capital market may need government assistance. In Belgium, small or medium-sized communes had almost no access to this market until the state organized the *Credit Communal*, often providing the communes with the savings of their own inhabitants. In the long run, the creation of a capital market can perhaps influence saving more effectively than can a change in the structure of incomes.

More often, the government will change the size of an existing market. It may perhaps open new communications, or remove institutional obstacles. One automatically thinks of customs barriers, but regulations affecting transport

may cause economic segregation. For instance, the so-called 'co-ordination of transport' often increases costs in some districts, creating local monopolies.

The size of the market has many consequences for economic development. First, in general, the wider the market, the more stable prices. This is particularly true of agricultural products, with their dependence on weather. Similarly, the size of the market seriously influences the optimum size of the firm. Again, changes in the size of the market alter market *forms*. Two principal elements determine the degree of competition; the number of sellers or buyers and the homogeneity or otherwise of the product. The size of the market naturally affects both. The larger the market, the more numerous are sellers and buyers, and the greater the advantages of large-scale production of standardized products. A widening market encourages standardization.

The effect on numbers of participants differs over time. Widened markets seem likely to increase the number of sellers, thus working against monopoly or oligopoly. In the short period, however, a widened market favours larger plants and tends to oligopoly. Wider markets may lead to greater competition among buyers, since restrictive agreements between buyers are less usual. Exceptions will, of course, occur in factor markets.

Governments can affect market forms in many ways. Legislation may favour or obstruct the activity of trade unions, employers' organizations or coalitions of them. Competition may also be influenced by institutional elements not obviously designed to do so. Through moral influence or regulative powers, trade and professional associations may support controls over safety standards, or standardization of products, whose true object is discrimination. During depression, governments may even encourage trade associations. Highly efficient firms are losing money and competition seems ruinous. In time, such trade associations may create ample profit margins and 'transform profits into an annuity'.

Trade associations may, however, promote progress through scientific and economic research. By uniting small producers they may lower production costs. Government intervention itself often strengthens trade associations. Governments can more readily influence large numbers of producers through trade associations, which often flourish under interventionist policies, leading to progressive changes in market forms. Indeed, trade associations may elude the government's influence, and themselves influence the government. Thus, the attitude of the authorities to such coalitions inevitably affects economic development profoundly.

Market forms favouring buyers usually depress prices; those favouring sellers usually raise them. Thus, employers tend to lower wages in the absence of labour organizations. This may retard progress. Indeed, if a market favours buyers, the development of sellers may lag for want of profits, and vice versa. Even worse, development of both buyers and sellers may halt.

ECONOMIC POLICIES AND SUPPLY AND DEMAND

Governments may change the way a market functions by influencing supply or demand. First, demand may be influenced by taxation. Direct taxation modifies income distribution and changes consumption patterns. Indirect taxation discourages the consumption of taxed products. The supply of

consumers' credit likewise influences the structure of consumption, especially for costly durable goods.

Taxation should refrain from all partiality if market indications seem valid. If not, taxation can correct them. In practice declining activities obtain substantial tax reliefs. This is a delicate problem. Yet, it seems better to stimulate new activities rather than sustain out-of-date ones.

In a factor market, a minimum wage modifies supply conditions, as does a 'royalty' for using a natural resource. Public investment often improves supplies of factors, like hydro-electric power.

Most important is the state's influence on human beings. Raising cultural levels is, clearly, a sufficient aim in itself, to which education and the skills indispensable to economic progress are often closely related. Industrial expansion needs technicians perhaps as much as it needs capital.

ECONOMIC POLICIES AND ENTREPRENEURS

The entrepreneur is decisive in economic development. His behaviour depends, largely, on the existence of markets, on their size, and their form. But the entrepreneur maintains enough freedom for direct action to have significant repercussions. The state may either replace private entrepreneurs or encourage them, perhaps by monetary policy.

Monetary incentives and credit expansion encourage activity, and favour the creation or extension of undertakings. Restrictive monetary policies encourage rationalization and cost reduction. Both the creation of new firms and rationalization seem necessary, and since monetary policy cannot achieve both simultaneously, prosperity and recession should perhaps be organized alternately. Industrial expansion has often taken place behind tariff barriers, but probably these were not decisive. They seem more likely to have slowed progress.

Society should be organized to attract talented and enterprising citizens to entrepreneurship. For this, student bursaries are important, as are also systems of ownership, land tenure and credit organization.

Our nomenclature does more than merely classify forms of political intervention; it allows us to analyse the various impacts of economic policy. Any government intervention usually reacts on the whole system. For instance, higher wages—an increase in the relative price of one factor—lead to changes in income distribution, in the structure of demand and thus affect the economic structure. Moreover, especially in an open economy, increased wages raise the criteria of efficiency to which entrepreneurs are subject. This may be important if entrepreneurs are sensitive to efficiency criteria.

Thus we see the unity of the economic system. Pressure exerted at one point is transmitted to all others. Economic policy makers must therefore foresee such 'chain reactions', to prevent contradictions between different policies.

Again, the various parts of an economy are often subject to compatibility relations; no one of them shows a causal privilege. For example, pure economics shows that wages tend to equal marginal productivity. But the causal relationship may hold the other way round as well. One should distinguish between short- and long-period reactions; in the short run the direction of the causal relationship is such that one cannot obtain a market rise in labour's marginal productivity by raising wages. In the long run, however, the economic

structure is very adaptable, and if market conditions or the governmental attitudes favour gradually rising wages, marginal productivity may rise too. This seems the essence of arguments for high wages.

These considerations suggest the economic policy which can promote progress. Fundamentally, the economic system is governed by laws of equilibrium. Almost all its aspects may be affected by government action; any intervention has repercussions throughout the system. An economic policy aiming at progress should endeavour to combine its interventions to have a cumulative effect. Since such interventions would naturally cause disequilibrium, the crucial problem is to discover which disequilibria must be created so that the system may reach equilibrium.

One cannot postulate universally valid models, but must consider existing historical situations. In some cases only a few purely economic interventions are needed—e.g. fixing wage scales, or regularizing capital exchanges; more interventions may be needed, however, on the periphery of the system—for example, improvements in education, or hygiene.

Sometimes more vigorous intervention will be necessary. Certain sectors of the economy may be 'in a blind alley' because progress is not possible without rapid and simultaneous transformation everywhere. Here it seems impossible to achieve progress save by a sort of 'revolution', with the government assuming great economic and entrepreneurial responsibilities. This may happen with large-scale settlement in a new country, development in neglected regions, or modernization in backward regions; as in southern Italy.

Economic policy implies the co-ordinated application of numerous complementary stimuli which progressively give a desired impulse to the economy. The strength of these stimuli may be the subject of experimentation to avoid accidents. The ideal is to exploit the plasticity of the system. But there is a limit beyond which further intervention would arouse hostility against progress from those it intended to benefit.

DISCUSSION

MR. HAGUE thought that, in selecting the market and the entrepreneur as the main categories to be influenced by political action, Mr. Duquesne had committed an error of judgment, and overstressed the market's importance. He also suspected Mr. Duquesne of thinking that progress was most rapid where competition was atomistic. He himself took the view that oligopoly and technical progress often went together.

Mr. Hague suggested the present order of importance of the various government policies which could lead to progress. First, he put monetary and fiscal policy which would most favour progress, although he was uncertain what this 'best policy' was. Should we try to climb along the 'ceiling' Professor Hicks had invented for us? Or was there a better path? Second came state support for technical education; third, government investment in housing and in public utilities. Fourth, and no higher, he put the kind of market intervention which Mr. Duquesne had stressed. Monopoly might be a serious obstacle to social justice, but it was much less certain that it presented a really serious obstacle to economic progress.

M. DUQUESNE did not agree that markets could be left to take care of themselevs, nor that it was unimportant what happened to them. Nor had he expressed a preference for any particular type of market form.

MR. PEYREGA thought that public investment was important both in creating markets and in influencing supply and demand, especially in underdeveloped areas. He suggested that value theory, usually ignored, was needed here. One should discover the value to a nation of public utilities, like air transport, before acquiring them. He also felt that whenever economic policy was used deliberately as an instrument of economic progress, some government planning was essential. For instance, when public services were built in underdeveloped areas, it was not sufficient to rely on the market to divert demand towards them. The government must intervene directly to do so.

MR. HABERLER raised the question of wage flexibility. He did not think that in this context there was merely a question of the flexibility of relative wages. The degree of wage flexibility obtainable depended in part on the level of absolute wages, especially during long-run growth. If trade unions were strong, they might be prepared to allow relative wages to be kept in equilibrium, but only at the price of a steadily rising general wage level. This would present serious problems. If the rise in the wage level were not checked, there would be inflation; if inflation were prevented by monetary and fiscal measures, there might be stagnation.

MR. CHLEPNER stressed the point that government economic policy rarely represented a continuous process. It was usually more or less chaotic, carried on under the pressure of different objectives and different groups. Moreover, even in their economic policy, public authorities usually took into consideration various non-economic factors. They wanted to protect some groups, peasants or small businessmen, not to speak of more limited 'pressure' groups; or they had to consider such factors as 'the national interest' or 'social justice', about which no strictly economic judgment was possible. This raised the whole problem of the relationship between economic science and economic policy. To what extent could the former lay down rules for the latter when value judgments had to be made?

MR. BURROWS queried Mr. Duquesne's attractive picture of entrepreneurs being stimulated by alternating inflation and depression. He thought the successful pursuit of such a policy was unlikely. He was also sceptical about Mr. Duquesne's suggestion that compulsory wage increases could raise productivity and lead to progress.

MONETARY POLICY AS AN INSTRUMENT OF PROGRESS

HOWARD S. ELLIS

As activity and output increase during economic development, the money supply should be expanded. What should govern the rate of expansion is not easy to say. Any definite trend towards larger bank balances should be satisfied; new cash balances should be available without deflationary effects; general price stability is important; so is stability of output at near-capacity levels; balances of payments may also have to be considered. But these ingredients of monetary policy have no fixed weights, valid for all time.

'Controlled economies' might impose forced saving by continuous inflation, rationing, periodic confiscations of cash or repudiations of bonds. Even here such a course would probably defeat itself by impairing incentives. This paper, however, considers free market economies.

Some people believe that, even in market economies, inflation accelerates progress. But it is impossible to lend credence to such a view. Only part of the purchasing power forcibly transferred to savers and investors by inflation goes into capital formation; forced saving is partly, wholly, or even more than offset by lower voluntary saving. Even if inflation causes net capital formation, a significant part may represent speculative inventory accumulation or luxury building. Every inflation stimulates mere speculative trading; spurious economic activity absorbs resources from genuine production. Marked inflation drives capital abroad and repels foreign investment. It distorts the allocation of resources, undermines productive incentives, induces foreign exchange shortages, and proliferates controls.

Mild inflation produces these results in lesser degree, and may slightly stimulate production. But only if the mild inflation 'just happens'. A policy of mild inflation, once detected by the public, will cause immediate price rises to discount expected monetary depreciation, reduced cash balances, and progressive inflation.

As Schumpeter, Robertson, and others have argued, in advanced economies economic progress occurs in waves. Monetary expansion supplies a necessary complement to innovation. Furthermore, an increased money supply in depression can employ idle resources. In less developed regions the shortage is not of 'effective demand' but of capital and effective organization. Where population presses on resources, surplus agricultural labour cannot be mobilized simply by Keynesian 'cheap money'. Otherwise, abundant labour would *per se* signify abundant capital. The real obstacles to development are paucity of plants and equipment and the absence of adequate economic and social organizations.

Economic progress is inhibited by deflation or inflation. If more advanced countries are sometimes plagued by deflation, less developed countries are more generally beset by inflation. The borrower-status of underdeveloped areas, their rudimentary financial organization, their lack of capital, and their tendency to imitate Western living standards predispose them to inflation.[1] But inflation is not inevitable in less developed economies. It is the function of monetary and fiscal policies to prevent it.

A new literature of capital growth has recently appeared. Some formulations hold that only one rate of capital formation, with a given growth of income and savings and a given ratio of output to capital, can avoid inflation or underemployment. But the probability of this new, possible cause of disequilibrium is exaggerated by overlooking important corrective forces. If in capital-poor communities investment is growing faster than saving, inflation can be countered by substituting labour- for capital-intensive techniques.

Rational monetary policy does not produce economic progress but may effectively condition it. Progress depends on many things: population trends, incentives, availability of capital, etc. It is because economic progress depends on so many elements that it prevails over so small an area. Henceforth this paper considers only the less developed areas.

Few economies are too primitive for this money supply to be influenced by budgetary policy. In early development budgetary deficits are likely. The countries are international borrowers and this may accompany government

[1] Thus Chile has experienced nearly continuous inflation since 1870. Cf. David. L. Grove, 'The Role of the Banking System in the Chilean Inflation', International Monetary Fund, *Staff Papers*, September 1951.

deficits. Government departments or development organizations may be hypnotized by large-scale projects, particularly in heavy industry, and overspend their means. Citizens may obtain over-ambitious programmes of welfare and social security. Deficits may be incurred on expensive government buildings. Again, the great need for public health, education, or public utilities represents a temptation to excessive spending.

These facts, with the rudimentary or chaotic revenue systems in underdeveloped countries, mean that inflation is accepted as inevitable.[1] But scepticism about improving revenue systems is virtually tantamount to scepticism about economic progress. Monetary expansion, outside narrow limits, cannot transmute structural unemployment into productive labour. Inflation has unfortunate effects on capital formation and output. The only remaining sources of capital are voluntary domestic saving or overseas funds. Between 1949 and 1951, total foreign capital and international agency loans varied from $1.49 and $2.14 per head per annum for the underdeveloped world. Even if trebled, this sum would be a mere starter or nest egg: the main source of capital for development must be indigenous. But private voluntary saving is unlikely to be adequate without a broad base of public utilities and services. Extensive private investment awaits greater opportunities and smaller risks, which themselves depend upon public investment. Effective revenue systems constitute the foundation of progress.

It is easy to be fatalistic about the improvement of fiscal systems in less developed regions. Yet, before the industrial revolution, Western Europe could rarely boast about its tax systems. Countries like India cannot produce great revenues overnight. Total *per capita* expenditure in India in 1949-50 was $2, compared with $282 in the U.S.A. 'Taxable capacity', capital stock and income grow mutually and perpetuate expansion. The initial impetus to progress in poor economies comes not from sudden miracles but by slow initial accretions bringing a constantly increasing tempo.

However, even short-run tax yields in developing countries can be substantially increased. The Bell Commission on the Philippines thought improved taxes could readily yield a third more. Compulsory saving rapidly accelerated industrialization in Japan and Russia. In democratic communities the tempo may be less dramatic, but tax revenues for capital formation and the improvement of public health and welfare remain the chief bearers of progress. Rational monetary policy need not be negated by chronic budget deficits.

Next we consider the effects on progress of commercial banking in underdeveloped areas. The institutional framework is probably auspicious for effective monetary control. First, commerce and industry must rely heavily upon banks for capital, giving the monetary authority a strong leverage on the money supply. Corporate self-financing is often precluded, yet direct access to the savings of the public cannot supply business with much capital. First, individual saving not tied up in family ventures is small; second, the public is unaccustomed to buying securities; third, money markets are not well developed.

Traditionally, economic development has, particularly in colonial areas, received little support from commercial banks. In the Orient, they were founded by Europeans to serve the needs of foreign or export trade; and other investment projects could scarcely acquire even working capital from

[1] Cf. C. P. Kindleberger, *The Dollar Shortage*, New York, 1950, p. 196-200 *et passim*.

the banks. Latin America still shows some of these original characteristics; Japan, on the other hand strongly influenced by Germany, has long known banking in intimate association with industry. Except in England and countries influenced by the English model, industrial banks in Europe have been important in financing long-term investment.[1] Perhaps this practice should be more widely emulated in economically backward areas. Control over investible funds is easier if firms must resort to banks.

There is, however, a parallel narrowing of the effectiveness of discount rate changes and open market operations, which must be subordinate where financial markets are rudimentary. But this need not destroy the central bank's power. Changes in reserve requirements can still control the supply of money. Few idle balances are held by firms and individuals, and business depends little on bank credit. So a tightening of bank reserves takes effect immediately and directly. Monetary authorities can also engineer parallel variations in the availability of reserves by moving government deposits from the central bank to deposit banks, and vice versa.

Another favourable circumstance is that national debt in underdeveloped areas is usually small relative to national income. Anxiety to keep prices of government securities stable need not inhibit attempts to stabilize national income. Especially is this true in parts of Latin America where central banks already hold many government securities. For various reasons, however, including the encouragement of individual saving, the market for government securities needs expanding. Monetary control still need not be seriously impaired by a growing national debt if maturities are fairly short, interest rates realistic and there is no resistance to fundamental changes in interest rates. Indeed, provided the central bank holds numerous government securities, it has ample 'ammunition' for anti-inflationary open-market sales. Deposit banking may finance economic development without control over inflation being lost.

The objective of keeping prices and output reasonably stable in a progressive economy is complicated by international factors. Most relatively underdeveloped countries are primary producers. Admittedly such primary producers experience wide variations in foreign exchange earnings, but no-one has demonstrated statistically, despite the stability of industrial export prices that the foreign exchange yields of exports are notably more stable in industrial countries.

It is rather the combination of variable foreign exchange yields with other characteristics which exposes primary producing countries to alternating prosperity and depression. Exports frequently constitute 25 per cent of national income; hence the foreign trade multiplicand is large. Again, industrial countries tend to lose foreign exchange in boom times, which represent a 'built-in' governor on monetary expansion; primary producers gain reserves in prosperity, adding fuel to inflation. In depression, primary producers lose reserves and face exchange control, devaluation, or deflation. Nor do most underdeveloped economies possess adequate compensatory public works to cancel variations in exports.

Do external forces make stable progress impossible despite intelligent and powerful internal monetary policy? Sufficiently strong monetary measures might offset boom-time expansion of export yields. But if primary producers

[1] Alexander Gerschenkron, 'Economic Backwardness in Historical Perspective', *The Progress of Underdeveloped Areas*, Bert. F. Hoselitz, editor, Chicago, 1952, p. 9-13.

must anticipate cyclical and episodic depressions like those of the past half century, it is improbable that they would forego any interludes of prosperity.

Basically, the *malaise* of variable export yields needs solutions like independent national contra-cyclical action in the chief industrial nations; international commodity stabilization schemes, and international stabilization of capital flows. Even without those, primary producers can considerably reduce the impact of external instability. The 'normal' progress of economic development (in accord with comparative costs) will reduce dependence on export markets. The very growth of output and income itself expands domestic markets for manufacturers. Economic progress bids fair to reduce instability from foreign trade.

Primarily producers could make better use of export taxes as a counter-cyclical device. If the demand for raw material imports into the industrial nations is inelastic, as is often suggested, such taxes would not substantially reduce foreign exchange yields. And the transfer of large sums to the internal Treasury during booms would reduce windfall profits and dampen inflation. Underdeveloped countries ought also to realize the particular merits of compensatory public works. Primary producers find that public works—especially those directed toward health and public utilities—facilitate private investment. In less developed countries they can employ surplus agricultural labour, and avoid the displacement of resources caused by episodic public works. Finally, exchange rate flexibility is more appropriate to peripheral countries than to the chief industrial and financial nations who are custodians of 'key currencies'.

By combining such measures, domestic monetary policy in underdeveloped nations may master instability caused by foreign transactions. If not, these countries will need to continue bilateralism and exchange control. Greater stability in industrial countries and international commodity and investment systems, may be essential to that effective monetary policy in underdeveloped areas which is the *sine qua non* for overcoming the persistent 'dollar shortage'. Only fiscal and monetary weapons can effectively control inflationary pressures in high-investment 'debtor' economies with their tendency toward excessive consumption. Similarly, correct monetary-fiscal policy can overcome the effects of lags in technological progress on the balance of payments. Such lags tend to raise costs and impair export capacity. A restrictive monetary-fiscal policy can lower costs and close export gaps, without exchange control discouraging foreign capital.

Monetary policy traditionally refers to control over the money supply. But anything related to saving and investment is related to monetary theory. Inflation will result in a developing economy unless voluntary saving covers any excess in investment over compulsory saving and foreign borrowing. Measures to increase voluntary savings foster capital formation and avoid inflation. Furthermore, unless people save and invest, foreign capitalists are unlikely to organize anything but the export of raw materials.

The fundamental conditions for increasing domestic savings are security of property from confiscation, inflation, and excessive taxes and the presence of attractive investment opportunities. Governments in underdeveloped areas can do much to break habits of improvidence by providing opportunities for capital-formation through voluntary labour on communal improvements. In countries which are impatient to have these facilities at any cost, this is a useful anti-inflationary device. Encouragement to small savers can also help.

In many underdeveloped areas, investment opportunities condition savings. Whatever happens in the Western world, in the underdeveloped world saving is alien to the habits of the masses. The few who can and do save, do so principally for direct investment. To nurture thrift in broad strata of the population, governments must make investment possible and interesting to the common people. Self-help projects, local industries, village handicrafts and cheap agricultural tools with high productivity may increase savings and thus ease fiscal and monetary pressures.

Keynesian analysis may overlook an important factor. Capital formation depends not only on saving and investment, but also on the skill with which capital is used. Even though capital accumulation may equal 12 per cent of gross national product, extravagant investment in, say, luxury apartments impairs future growth. Investment plans in young developing economies often overemphasize manufacture as against other industries, and large-scale projects as against more modest ones. Allocating capital correctly to achieve balanced growth is not strictly monetary policy. But economy of capital is essential in avoiding inflation.

Many economists have dwelt on the fructifying effects of the spread of the money economy in the course of economic progress. This fructifying power depends, however, upon the maintenance of domestic and international equilibrium. Effective monetary policy does not supply the driving force of economic progress. But it conserves and stabilizes these forces, and in the end accelerates development. An institution which accelerates development may fairly be said to be an instrument of economic progress.

DISCUSSION

The discussion on MR. ELLIS's paper was mainly concerned with whether a policy of deliberately increasing money supplies in backward areas could help to bring progress. MR. PEDERSEN thought Mr. Ellis had greatly underestimated the role of money in mlobilizing economic forces. Underdeveloped countries lacked investment goods, but could not acquire real assets unless they could either earn or borrow money. Credit must be expanded to bring labour into production. Mr. Pedersen thought his contention was even truer where a peasant economy needed transforming. Even more capital was needed to raise *per capita* output, and saving could not solve the problem since the essence was to transform a self-sufficient system into one with greater division of labour. Mr. Ellis had claimed that in underdeveloped countries it was not 'effective demand' but 'capital' which was lacking. But how could there be 'effective demand' in such countries without an expansion of currency and credit? Finally, Mr. Pedersen said that whilst it was true that without initiative there would be no progress, there would be no progress either if funds to carry out investment plans were lacking.

MR. ELLIS agreed that where development required resources to be shifted from the non-monetary to the monetary sector of a backward country, an expansion of the money supply would be needed to avoid deflation. But unemployment in backward areas could not be cured by purely monetary means. In much of South-East Asia bigger bank balances might not lead to more real capital. They were equally likely to lead to inflation. The need was not merely to avoid monetary shortages, but for radical changes in public health and social organization.

MR. ROBERTSON said Mr. Ellis seemed to agree that the money supply should increase roughly in proportion to the number of people wanting money balances—in

proportion to the growth of population and to the rate at which people were being transferred from the 'non-monetary' to the 'monetary' sector of the economy. That seemed a reasonable enough policy. But no monetary policy could prevent a large population increase in an underdeveloped area from causing trouble, either by a progressive rise in prices or by a progressive fall in *per capita* money income.

MR. IVERSEN did not feel that the transfer of labour from sectors with disguised unemployment could be brought about by credit expansion. Where a backward household economy was being transformed into a monetary economy, the fear of inflation was usually great. Actual inflation might shake confidence in the currency and imperil progress.

MR. LINDAHL supported Mr. Ellis's contention that inflation in underdeveloped areas did not further progress. In Chile, where there had been considerable long-term inflation, savings were so low that investment represented less than 10 per cent of the national income. If inflation could be ended, voluntary savings might finance even greater investment than this. But Mr. Ellis might even have underemphasized the fact that in the first phases inflation might sustain investment. In Australia, in the immediate post-war years, total investment had been about 25 per cent of the national income. Yet, even in this case inflation had not been a satisfactory foundation for progress, having unfavourable effects in later stages of development. Mr. Lindahl wondered whether the mild inflation might be defended in economies with some stable monetary systems. According to the general opinion, a little inflation was not altogether undesirable to promote smooth development. It might also help to adjust relative prices in desirable ways. Mr. Lindahl thought it best to keep prices stable. Even in the short run, because of the stickiness of wages, it was now harder than before to induce a compensatory deflation after an inflationary movement. A mild inflation might become serious and cumulative in the long run and hamper economic progress.

MR. ELLIS said he had not intended to 'leave the path of monetary rectitude'. He had merely said that sometimes policies implying rising prices had raised output, though not where there was a deliberate and long-term inflation. He favoured a policy of stable prices at reasonable levels of employment.

MR. KAFKA endorsed Mr. Ellis's prescription. In underdeveloped areas, inflation had now prevailed for some years and had lost any virtues. Nevertheless inflation might sometimes be worth while where an exceptional opportunity for development offered. A marked change in the terms of trade might make it possible to promote a large amount of the right kind of capital formation, but only by indulging in (a short and unexpected) inflation. But downward rigidities of prices might make it necessary to match the inflation with periodic bouts of deflation.

MR. IVERSEN aired a new issue, saying that though there might be no government debt in a backward area, some such debt might represent a useful basis for open market operations. Mr. Ellis had suggested reasons both for keeping the rates of interest stable and for allowing them to move. He himself stressed stability. Mr. Iversen also maintained that although Mr. Ellis had noted the importance of changes in reserve requirements, the role of monetary and fiscal policy in a backward area was likely to be unimportant. What was really needed was close consultation between banks and development boards, to ensure that investment projects did not conflict or overburden the economy.

MR. KAFKA also thought that, so far as the mechanics of monetary policy were concerned, changing reserve requirements in backward areas represented a very blunt weapon. Altering marginal reserve requirements was an important new technique.

V. THE THEORY OF ECONOMIC PROGRESS

SHORT-PERIOD AND LONG-PERIOD ANALYSIS

ANDRÉ MARCHAL

The explicit introduction of time and movement into economic theory appears, surprisingly, to be relatively new. The classical economists conceived a long-period dynamic movement which, by the interplay of Malthus's population theory and Ricardo's 'falling rate of profit', would reach its conclusion in John Stuart Mill's stationary state. Neo-classical economists, however, seek a rigorous isolation of economic from non-economic factors. This obliges them to postulate a constant environment and limit themselves to analysis of a purely conceptual short period.

In contrast, an historical short period of 7-11 years is observed and analysed in detail by econometricians; but there is no bridge between equilibrium theories and these dynamic descriptions. Not until about 1925 were fluctuations subjected to systematic analysis, and even here authors are generally content with logical explanations of the spasmodic character of capitalist expansion. Economists are, perhaps, now becoming aware of the partial aspect of their work and discovering the need for analysis in terms of the compatibility of structures.

Certainly we see a sudden burgeoning of theories of growth and progress. The former seek to formulate the conditions for concurrent growth of aggregate quantities; the latter try to understand and explain variables like average income, and *per capita* production. There are also attempts to combine short-period models with long-period dynamic movements; for example, some writers seek a variable capable of explaining both spasms in the rhythm of economic evolution and such evolution itself.

Others prefer a mechanistic approach. For example, Hicks' 'Trade Cycle'[1] transforms a Keynesian system into a sequence analysis through time lags, the accelerator and the multiplier, which is then grafted onto a Harrod-type economic growth. Such models have their own limitations. Whilst a short-period analysis can be 'purged', by isolating the solely economic variables, a purely economic long-period analysis is meaningless.

Transpositions of short- into long-period models, however attractive, have raised many controversies.

1. There are general objections to aggregate concepts, to the extension of an individual function to an imperfectly homogeneous community, in short, to all macro-economics. These arguments gain when applied to macro-dynamic sequences; it is in movement that the heterogeneous character of the variables becomes patent, because components display divergent tendencies. Do these divergences assert themselves more the

[1] J. R. Hicks, *A Contribution to the Theory of the Trade Cycle*, Oxford, 1950.

longer the period considered? Or is Lundberg's 'curse of constant parameters' more serious?[1] Lundberg himself escaped this curse.[2] First, he wished to explain expansion only; second, he differentiated his models by the qualitative composition of aggregate investment. Thus Lundberg criticizes Hicks for applying a constant rate of saving to a whole business cycle, and even more to longer periods. He feels that the unstable character of saving is important, and that this depends on significant variations, during a cycle, in the share of profits in national income.

Similarly the accelerator varies, over the cycle, with composition of investment. In the U.S.A. building was important up to 1925; then stocks and machinery took the lead. During the 1949 recession machinery and stocks fell, while long-term investments expanded vigorously. So if the acceleration coefficient varies from 0.5 to 1 for stocks and from 10 to 15 for buildings, we cannot assume it to be constant. Finally, the reaction speeds in various sectors both differ and interact.

2. There is an argument for constant coefficients, which in Hicks' work is only partly explicit. Although different phases of the cycle are characterized by rapid modification of the structure of the aggregate variables, and by resulting changes in the various functions, at the end of one or more cycles these movements cancel each other. Moreover, for Hicks the 'lag' explains everything; changes in saving are explained as speeding-up or delay in consumption. In expansion undistributed profits increase, but this temporary saving is only deferred consumption. It does not affect the equilibrium position, only the speed at which that equilibrium is reached.

Statistics could justify such an argument. Each sector's share in the national income, very sensitive during cycles, appears to be a long-period structural constant; observed changes in the consumption function do not seem to be significantly correlated with wage changes.

3. It does not follow that the coefficients are most stable over long periods. One can distinguish a very short period when they appear constant, a cyclical period when they are violently unstable and a long period when they undergo:

(a) direct modification through conscious and deliberate action by interested parties;

(b) indirect modification by the repercussions of exogenous variables.

Every growth theorist must allow for important external factors like technical progress. He can do this explicitly like Harrod, or, like Hicks, by the intermediary of autonomous investment.

Over several cycles stocks, machinery and building represent fairly constant proportions of induced investment, despite momentary fluctuations, so that an 'average' accelerator is plausible. But this is not so with autonomous investment, which comprises both rational elements, such as investment stimulated by prospective population increase, and irrational elements, such as innovations revolutionizing all economic activity, politically determined public investment, etc. Here the value of the accelerator is hard to predict.

Again, even a slight regular increase in total population may conceal important structural changes. There may be a high birth rate and lower infant mortality, reduced general mortality, or increased immigration. In each case,

[1] 'The Stability of the Rhythm of Economic Expansion', *Ekonomisk tidskrift*, 1950, no. 3, p. 196.
[2] Cf. E. Lundberg, *Studies in the Theory of Economic Expansion*, 1937.

the active proportion of the population will differ, as well as *per capita* income and living standards. The bargaining power of wage earners will differ, with effects on income distribution, consumption, etc. Here are more dangers of aggregate and average concepts, above all in long-period analysis.

To pass from short-period analysis like Keynes' to growth analysis, one should replace aggregate analysis by structural analysis, and replace total by sectional concepts. Two important consequences allow us to define the distinctive characteristics of long-period analysis.

Over a long period:

1. Qualitative aspects of phenomena predominate over quantitative ones. One must study the influences of different types of investment, of monetary structures, of entrepreneurs' attitudes towards risk.
2. The perspective must change. Whereas the short-term expansion alters production, either in individual firms or in the whole economy, long-term economic progress alters the distribution of output between social groups.

Is there an inherent difference between short- and long-period forces? Such a contrast seems artificial. There are no purely economic variables relating specifically to either short or long periods. Very often the same factors appear in a different guise. Thus Johan Akerman asks[1] whether industrialization does not repeat, on a gigantic scale, the new capital formation of the cyclical upswing. Similarly, 'innovations' represent short-period terminology; inventions an 'exogenous', long-period, language. Increased bargaining-power of labour is a short-period phenomenon if it results from the upswing; if it results from increased organization of workers it is a long-term trend.

Such examples suggest that the same reality may be variously apprehended. But what are the criteria which enable us to discern, *ex ante*, whether our investigation represents short- or long-period analysis? There seem to be two:

1. The operational time. This may represent either a gestation period, natural or technical, or the time lag necessary for the emergence of conscious knowledge. I emphasize the latter.
   (a) In the short period, when only the 'routine responses to economic impulses' occur, we may distinguish: first, a very short period when elementary economic reflexes and spontaneous, though delayed, adjustments between variables take place; second, a less short period, when elementary conscious knowledge of the first results of the combined play of variables and data becomes manifest. Automatic or quasi-automatic changes in coefficients or parameters follow, for example, the multiplier changes because income is redistributed during expansion.
   (b) The long period corresponds to the minimum time necessary for reflection on the causes of these results, and on how to counter unfavourable results. There is conscious, deliberate transformation of behaviour and of some structures and institutions. Psychological and sociological analysis is now needed.

   Unlike conceptual periods, the above periods have a concrete content, psychologically. But they do not correspond at all precisely to calendar-time; conscious knowledge is not always acquired equally quickly. Historicyall, there is doubtless a tendency towards a shortening of the long

[1] *Economic Progress and Economic Crisis*, London, 1932.

period, through growing experience and wider economic understanding.

The bargaining power of trade unions generally figures in models as an institutional datum or an independent variable, or, infrequently, as a dependent variable. However, even in short-period analysis this bargaining power may fluctuate with employment levels. The equation showing wage changes as a function of price changes must include a coefficient whose value, during the upswing, indicates both increased sensitivity to a rising cost of living and an improved strategic position for workers. In long-period analysis, more subtly rational behaviour could appear. For example, from previous experience, organized workers accept partial unemployment during recessions, rather than wage reductions.[1] They presume that in any revival, negotiations would begin from this reduced wage rate; the return to normal would involve time lags when profits would increase at the wage earner's expense. Here is a change from a routine reflex to conscious action.

Social groups can improve their strategy and, at intervals, formerly stable behaviour changes.

2. The emergence of 'conscious' knowledge provides a psychological criterion for the long period, though perhaps too subjective, and incapable of statistical verification. Another criterion guarantees objectivity, namely the form of the relationship observed.

The short period covers several types of relation:

(a) Pure cyclical relations represent intellectual constructions where maladjustment is followed by re-adjustment. Time lags in such adjustments give rise to periodic, regular oscillations. There is nothing surprising in such lags. Every economic response takes time.

(b) Historical cyclical relations are based on periodic structural tensions resulting from the differing lengths of institutional, contractual or technological periods; for example, the different lengths of the construction and utilization periods. Such tensions appear and are resolved at regular intervals and are expected and tolerated by the system. The individual's anticipations are unchanged, since such tensions constitute the normal short-run framework. Far from threatening a cumulative process they are stabilizing. We may note the influence of the contract on incomes from real estate, and the effect on wages of the sliding wage-scale.

(c) Quite different are non-periodic structural tensions of a functional or accidental character. They result from inflexibility in the economy. Since they neither represent a logical necessity, nor are known or foreseen, they are irregular and outside economic calculations. Their shock effect modifies the normal physiognomy of the cycle, usually amplifying and lengthening it.

Such structural tensions arise between sectors. They may be localized geographically—Britain's 'depressed areas'—or economically—E. Dahmén's 'developmental blocks'. If such tensions remain confined, they are unimportant to short-term equilibrium. If they spread they can cause 'induced' tensions.[2] Such cumulative processes will be arrested if frictions

[1] Cf. J. T. Dunlop, *Wage Determination under Trade Unions*, Oxford, 1950.
[2] Cf. J. Gabillard, *La fin de l'inflation*, Paris, 1952, p. 34-42.

or bottlenecks arise. Non-periodic structural tensions also appear vertically, between various stages of production.

In the long period such destablizing relations disappear. The lags are unimportant; aggregate quantities are adjusted *ex post*, and only their equilibrium path is seen. Non-periodic tensions are somehow absorbed. The long period represents the time lag of structural adaptation, the period necessary for resolving incompatibilities between structures.

Such structural tensions in economics and technology have been resolved by eliminating outdated structures, by innovation and by changes in the relative importance of various sectors. Similarly, behaviour and tastes have been adapted. Relative incomes, the composition of consumption and the strategic positions of social groups have changed. Finally, institutions have been reformed—the contract system among them.

If upward adaptations of structures predominate there is economic progress; otherwise there is stagnation, as in France between 1918 and 1939. The higher proportion of older people in France has caused the spirit of initiative to be replaced by fear of progress. Today the demographic revival contradicts the surviving Malthusian tendencies. Here is a structural incompatibility which France must resolve, together with that between an unstable political structure and a semi-planned economy.

Adaptation upwards is occurring in Israel; an advanced economic structure is being established in a desert, by a population mentally adapted to economic development. Again, Sweden is the only country whose rate of increase in real national income per head has been maintained since 1900. Our 'theory' implies that Sweden should show remarkable compatibility between its various structures, for which there must be an historical reason. That reason is that Swedish industrialization came late, and was established on an advanced mental and social terrain perfectly adapted to receive it.

If structures are so important, even in short periods, perhaps a realistic approach should reverse the common procedure of basing long-period analysis on a short-period model.

1. We might begin by long-period historical and statistical research, attempting to construct, in outline, the environment in which the short-period mechanism operates.
2. This short-term mechanism would cause reactions in long-term variables like behaviour and institutions, laying bare intercyclical relations.
3. It would then perhaps be possible to discover a regular relationship in the variation structures—J. W. Akerman's 'interstructural laws'.

DISCUSSION

MR. DALMULDER drew a table showing the viewpoints from which economic activity might be studied—cultural, social or economic. The columns indicated eight ways in which, given these viewpoints, such study could take place. These eight ways divided into two groups, one speculative, including the philosophical, historical and scientific methods, the other practical. The eight methods led to eight sciences, including pure economics, economic history and econometrics. These sciences were interrelated, and the parameters of a system of econometric equations derived from Mr. Dalmulder's table were determined by a system of sociometric equations whose parameters, in

turn, were determined by a system of psychometric equations. If human beings were free, the parameters of these psychometric equations would not be constant in the long run—the distinction between the short and long run would be important. If men were not free, these last parameters would be constant and long-run human behaviour predictable. The distinction between the short and long run would then be unimportant.

MR. JEAN MARCHAL agreed with his brother's general premise that any theory of economic progress presupposed a theory of distribution quite different from the current one. Such a theory would need to cover three points.

First, it must consider the distribution of the national product, not between abstract factors of production but between social groups. For the important long-run reactions were those of the social groups, who, at any moment, were either satisfied or dissatisfied with the division of the social product. Each group compared its income first with the efforts expected of it, second with the receipts of other groups. The rewards of such social groups must not be confused with those of the 'traditional' factors of production. A peasant group's income would depend not only on agricultural profits and rents but also on interest from any capital it owned. Again, today one had to consider deliberate redistribution of income through social security schemes and taxation.

Second, this new distribution theory must inevitably be a theory of the action of groups on structures. In the short run, an individual dissatisfied with his wage could merely work harder or less hard. In the long run, it was the group, not the individual, which acted. A group dissatisfied with its share of the national income might seek to alter the mechanism of the labour market. Alternatively, it might try to alter income-distribution by fiscal policy, correcting the primitive market forces. Thus long-run reactions do not alter the supply of factors according to their prices; they modify the very nature of the market.

Third, would not such a theory describe unique actions never to be repeated? In the short period, a given rise in interest rates would have a definite, known effect on borrowing. In the long run, this need not be true. Nevertheless, if at present a group of French civil servants were dissatisfied with their incomes, this theory could explain what kind of action they could envisage to modify market conditions. But one naturally could not say beforehand exactly what action they would take.

Such a long-run theory would, therefore, provide a rational explanation of past tensions in society and enable present tensions to be studied and reduced. Perhaps this was no longer economic theory, but though different it could and should be quite as scientific as short-run theory. Mr. Marchal felt that the social groups studied by the theory could be defined, first by the way in which they defended their own status and income, second by the particular characteristics of that income.

PRINCIPLES OF A THEORY OF SECULAR ECONOMIC MOVEMENT

LEON H. DUPRIEZ

A theory of secular economic movement must define the fundamental factors governing development over a very long period, and distinguish them from contingent influences. We examine first the logical content of fundamental secular relations to discover their most general elements. Although a theory of secular economic movement should cover both decline and growth, we here consider only secular growth, because it alone is capable of factual veri-

fication and is the only process which contemporary man knows intuitively. We thus construct a theory of secular growth, leaving aside the relations which govern decline. But we may not reason simply *a contrario* for the decline, for we lack intuitive knowledge of it.

One principle should first be firmly established: economic growth has an enormous span; it depends on but also imposes secular relations and has an extraordinary capacity to prevail over all the transient maladjustments of which mankind is so conscious. We study only secular adjustments, which must be conceived of in a very long operational time.

Marshall's operational time refers neither to clock time-periods nor to any concrete economic adjustment. We cannot identify secular time with Marshall's long period. But Marshall's distinction has great relevance. The abstract long period has analytical value only when compared with a short period, when an economic phenomenon is simultaneously subjected to a long- and a short-period adjustment. The first is slower in the making and more potent to prevail; the second is translated more rapidly into fact, but does not determine general direction.

Marshall's analytical apparatus is appropriate because economic events are determined simultaneously by (a) secular growth and by (b) existing business conditions. The first kind are clearly long-period compared with the second. The latter kind become relevant for our analysis, exactly as for Marshall's.

The principles of secular economic growth thus define the behaviour of basic factors, either the laws governing their contribution to growth, or their share in its fruits. Our purpose is to disentangle the necessary long-period relations in terms of a few essential requirements of economic life.

Defined thus, secular growth requires analysis in three respects: a theory of economic effort; a theory of the means employed; a theory of environment.

I. Economic progress should not be confused with secular growth, though they are closely related. We define progress as action which is meaningful only in relation to ends; this remains true, however the ends are defined. But these ends are attained by means, among which work is foremost.

Yet, although economic progress is inconceivable without means, especially work, progress and growth are not parallel. Progress consists in realizing subjective aims; growth is measured by objective efforts. Man's mastery over nature is related to the use of means, and should be expressed in a theory of secular growth, distinct from, but subordinate to, a theory of progress. Our theory of growth must be purely economic; it must explain the allocation of scarce means to human aims. Since such growth implies teleological considerations, it cannot be merged with physical or biological growth. Physical environment cannot determine economic growth, which is dominated by the desire for progress—a notion meaningless in physics. Again, biological growth implies the play of instinct, but the absence of rational judgment. Human development cannot be judged by these standards; it is governed by acts, which are considered and not instinctive.[1]

Viewed as applying means to ends in a growing mastery of man over matter, the secular growth born of the industrial revolution is more than a purposeless multiplication. Is it not rather a huge effort of man, trying per-

[1] Cf. L. von Mises, *Human Action*, New Haven, Yale University Press, 1949, p. 20.

sistently to overcome his own limitations and succeeding only through repeated accidents?

We now define those forms of human effort essential to an explanation of secular growth. We proceed from the marginal analysis of human behaviour. The principle of maximization explains, in a timeless logical abstraction, the ordering of efforts toward some purpose. It implies the pursuit of effort until decreasing utility no longer equals the uselessness of effort. This argument allows of all forms of creative innovation. Nor would it really fail if new innovations were not exploited concurrently with older techniques. The principle is inconceivable if limited to a given state of technique and organization, unless the human faculty of decision is similarly limited.

Admittedly most people expend their effort only on repetitive processes, but not the leading groups who have forged secular growth. The industrial revolution brought to the fore men capable of surpassing traditional techniques and of creating growth. Economic theory has been justified in stressing the role of the entrepreneur. Let us here distinguish the essential from the contingent.

Ideas about entrepreneurs substantially changed between Say and Schumpeter. Say's entrepreneur exploits possibilities opened up by independent discoveries, by the creation of new markets; but essentially he follows the lead given by demand. It would be false to conceive him as bound to a given state of technique; but the progress which he exploits is prepared by others.

Schumpeter's entrepreneur conceives progress and directs it consciously; changes existing techniques and organization; creates new products. Innovations are his most propitious form of intellectual effort. The principle of action remains the same, but the matter of maximizing income is different. Nor is demand either pre-existing or independent of the entrepreneur's action; he actively creates it. Our theory cannot substitute Schumpeter's entrepreneur for Say's. They are complementary. Creative innovation combines with exploitation of market conditions and with satisfying increasing demand in more and more ways.

Our theory of progress would also be too narrow if limited to analysing the behaviour of profit-maximizing entrepreneurs. Alone they could not have achieved the qualitative development of processes and products essential to secular growth. The industrial revolution increasingly required the development and differentiation of physical and mental qualities of everyone engaged in production. These were deficient when the revolution started—workers were valued only as 'hands'. The changed technique has depended on all efforts to increase general levels of 'civilization'. Indeed, we now realize that secular progress can be thwarted by moral and intellectual deficiencies.

II. A theory of the means of economic progress, our central theme, requires detailed elaboration. Essentially, this theory transposes the timeless theory of social distribution into secular operational time. The current theory of distribution imputes to various factors the social product resulting from their combined efforts, and thus determines their respective rewards. But it ignores changes in effective demand, and repercussions on number and quality of participating factors. Now, secular expansion sets the problem from this very angle. We must determine the final imputation which will result from all the adaptations inherent in secular growth.

The most important transpositions are needed because the supply of factors

varies in secular operational time, whereas the timeless argument is only concerned with equilibrium between factor costs and production coefficients.[1]

The secular theory should be broader because an increased social product may (a) be differently distributed between the various groups; (b) serve, within any group, to increase average rewards, to increase the number of participating factors, or both.

By stating the problem this way we force ourselves to think within a broader, if marginal, framework and to combine problems which classical authors treated separately—for example, reward per man with an increased population, or the rate of interest resulting from an increase in real capital. A theory which considers factors both as agents of and participants in the fruits of progress, constitutes the core of any theory of economic progress. It should interpret problems of relative scarcities and of the rewards of labour, land and capital in marginal terms, and explain secular production coefficients in terms of secular complementarity and substitution. We must study the relation between an increase in factors and the decreasing returns when production coefficients rise. We must discover conditions in which factor scarcity limits the increase of total product.

Such a theory possesses simplifying elements which are absent in the short period. Its main feature is that it must be limited to the behaviour of basic factors. Reproducible goods, intermediary products, should be ignored. Though their short-run maladjustment affects current business conditions, in secular operational time they are adapted to needs. Machinery in certain factories may be temporarily excessive compared with demand; but between 1750 and 1950 machinery increased in step with needs. Economic progress would not allow capacity to develop very differently. It imposes the relations inherent to secular development across shorter-period disturbances. Similarly, our theory of growth should not consider market equilibrium. This is concerned with any quantities which may be on the market; clearly the market should be ignored, although it plays an essential part in shorter-period cyclical theory.

Finally, the secular theory of capital needs more thorough recasting than other distribution theories. The classical concept of rent, for instance, only needs reconsidering more rigorously. But in both real and monetary analysis, the theory of capital is essentially linked to shorter operational time. Market equilibria dominate capital formation, and maladjustments of supply and demand for capital are advanced as major causes of cyclical troubles. In abstract reasoning, however, capital accumulation often represents an additive process. Neither premise is valid in the long period. Market and income maladjustments are absorbed in a crisis, and the discarding of surplus capital goods is most important, A secular theory of capital development should consider the adjustment of capital to final consumption; the 'death rate' and replacement of investment, the inadequacy of accounting results for describing economic reality, etc.

III. Production takes place in an environment, This imposes certain limitations. It is true that man tries to subordinate his economic environment

[1] *Cf.* L. H. Dupriez, *Mouvements économiques généraux*, Louvain, Institut de Recherches Économiques et Sociales, 1951, vol. I, ch. XI, p. 411-6.

to evade surrounding limitations.[1] But he succeeds only partly and his action remains conditioned by environment.

Economic history often relates the salient facts of the industrial revolution to general history, especially to institutions, social structures, and mental attitudes. It shows how economic aims are subject to non-economic facts. These historical correlations give concrete contours to economic growth, and show how economic effort is directed, but they do not constitute a theory of growth.

More important for us is the problem of economic fluctuations, of the impact of economic changes which must be explained in the same general terms as secular growth. This climate includes long price-movements, the results of economic policy and the phases of the business cycle. Here we meet the logical link between long- and short-period analysis, since the same psychological background is implied in both.

Three attitudes are possible.

First, one can claim that secular growth follows its own course, and its own laws; growth is then inexorable, despite any such obstacles as short-period 'troubles'. At most the rhythm of growth is retarded or stimulated by the economic climate, but that rhythm is not the essence of the theory. This is the attitude of the classicists, who leave the short-period troubles unanalysed; it is the philosophy of the 'veil of money'.

Second, one can stress the joint action of long- and short-period factors. Secular growth still obeys the fundamental requirements of secular operational time; but secular forces are no longer alone in shaping history. Forms of growth are profoundly affected by business conditions in the widest sense. A long upward swing of prices may increase both mechanization and employment in heavy industry. Similarly, monetary accidents, like those of 1876 or 1931-33, may momentarily retard progress; lost time is impossible to regain when such crisis is widespread. Similarly, the whole historical context of each period has an influence on growth which affects not discernable details but the rhythm of an uninterrupted progress.

A third attitude tends to make short-period analysis absorb the whole theory of economic change. This is implied in attempts to determine, by macro-economic relations, the total content of a change in, say, national income from one moment to the next. If a change in national income from t_0 to t_1 is determined by a set of short-period relations, so is the change from t_1 to t_2, and so on. Thus the total change from t_0 to t_n is also determined. All aspects of progress subsumed in national income growth are covered by this short-period determinism, which governs the aggregate results, even if the detailed reasoning is not directly valid for them.

We are not concerned with the validity of such analyses in their own field, but we must consider their scope. Either short-period models do not reflect the whole statistical situation, but are only concerned with cyclical change (hence arises the question of the consistency of long- and short-period models which explain the same historical reality)—or short-period models do determine the whole movement—hence a separate long-period explanation cannot exist as nothing remains to be explained. Contemporary writings generally seem to accept the second alternative, by preterition of the secular problem in controversies exclusively centred on immediate reactions.

[1] Cf. L. Baudin, 'Les mouvements de prix de longue durée', *Revue d'économie politique*, Sept. 1938, p. 1366.

This logical problem, whether secular movement can be determined additively by short-period determinations is vital since, under Keynes' influence, propensities are now all important. One can accept that, within a short period, an almost identical population could have constant judgments and actions. The 'law of great numbers' allows reasoned action to be treated almost as an instinctive reaction. But this limiting case is only valid for a relatively short period. Any lengthening of operational time rules out quasi-instinctive repetitions and requires an interpretation of human action implying a reconsideration of aims. Specific cyclical hypotheses are sublimated in a really secular theory, which may not be defined merely by a chain of short period conditions.

This outline of secular theory shows how the thesis becomes more complicated by imposing new requirements on the marginal method, but sheds intricacies which are important in cyclical analysis.

Other differences arise. Secular theory may accept, as a limiting case almost realized in fact, perfect adaptability of prices. In the long period, production of reproducible goods can expand until price equals long-period marginal cost. The link with economic fluctuations needs elaboration, but the fundamental fact is unassailable. Output has developed, for two centuries, in step with demand, and every temporary divergence from cost has required adjustments of supply. The secular problem implies an elastic supply of goods to changed demand. The essential problem now is the prices and production coefficients of basic factors.

It is therefore not surprising that classical authors offered no substantiated employment theory. Unemployment was among unanalysed 'short-period troubles'. Their error was not to consider the degree of employment as one of the 'troubles' of business fluctuations; we ourselves still interpret it only as a shorter-period problem. Employment was one of classicism's main concerns, but within a secular theory. Their concern was not how far a community would employ a potential labour force, but how far populations themselves might increase. Long-period employment theory does not refer to a pre-existing labour force; the development of this labour force is itself the problem.

The requirements of a secular theory stress another difference between long- and short-period analysis. The latter rests more and more on given technique and, concurrently, abstracts human action in propensities. Expansions and contractions represent purely quantitative changes and not qualitative transformations. In longer operational time progress consists of qualitative changes, which alone allow of quantitative developments. The state of technique is no longer a parameter; its transformation is the essence of progress. Secular theory needs postulates different from those of the 'General Theory'.

In this kind of study, one finds that the line of thought closely follows another, namely the distinction between classical economics and contemporary thought. Each school seems to have sought consistency in its main concerns: each has met serious difficulties when applying its conclusions, without reservation, or translating its abstractions into another operational time. Should we, then, when defining the conditions of secular analysis, be astonished to meet the classical authors?

This should be a comfort because it puts us now on broken ground; it also implies that economics was born in the study of the long, not the short, period. Our theory should then encounter, at every stage, the very problems which preoccupied the classical economists.

DISCUSSION

MR. BURROWS thought that the round table had shown that capital assets were only a part of the instruments of progress. However, any theory of economic progress should take account of the wastage of natural resources, like 'geological capital'. Perhaps we should discount realized progress to allow for such wastage.

MR. DUPRIEZ said that, in the light of history, progress should normally continue, unless there were political and psychological disorganization. Of course various checks were conceivable within the not-too-distant future, and Mr. Burrows had lighted on an important one.

MR. FOURASTIÉ felt that Mr. Dupriez had outlined the central points needed in a theory of progress for our epoch. He now posed the question, 'how can the same reality be explained in terms of two theories—those of the long and the short run?' The answer was that we could not grasp the whole of reality at once. A man making a journey would first study his route on a large-scale map, and only later study detailed maps to find how to travel easily through large towns. Similarly, economists sometimes looked at economic events over long periods, at other times they considered short-run problems. It was long-period study which should now be given priority; the harvest was abundant, the harvesters few. Such a long-period study would be difficult and perhaps we should be content to begin by solving simple problems. MR. DUPRIEZ agreed that our analytical schema were abstractions studying only one aspect of a larger reality. For example, the same event, the war in Korea, had short-term effects in raising prices in the raw material markets; it had stronger long-term effects. Production had increased, giving enhanced productive capacity and lower prices.

MR. HICKS felt that theoretical development was inevitably influenced by the opportunities of economists. Some economists had 'odd moments of inspiration' when they constructed models. Many had access to calculating machines; but few had the time or the inclination to analyse historical situations in the light of the theoretical ideas and statistical techniques which were now so abundant. If the only task of economists was to explain economic progress, the 'optimum allocation of resources' would require relatively more study of past history and relatively less theorizing. Our models needed applying, not to long-period development over 200 years, but to shorter periods—or perhaps to long periods in smaller countries or particular sectors. From this alone could a long-period synthesis grow.

He felt that Mr. Dupriez was not making the Marshallian distinction between long and short periods, but between long and short-term fluctuations. The distinction was really one which tried to assess the relative importance of phenomena—to distinguish those phenomena whose effects appeared quickly from those which exercised their effects over longer periods. MR. DUPRIEZ replied that the Marshallian analytical apparatus was abstract, not chronological. He had not related it to any particular period. Marshall implied that there were two reactions; one going on faster than the other. Marshallian analysis could be applied whenever a given set of influences provoked short- and long-term reactions, as often happened in the problems of the cycle and progress. In fact, this was only one use of operational time, and often it was very difficult to distinguish the various periods. This was admittedly not Marshall's own use of time periods; he was merely using Marshall's method of interpretation, which was obviously meant to be applicable. The cycle and long-run development were thus related in adaptation over time; they were dominant movements, each bringing a number of typical reactions into line. Finally, he approved of Mr. Hicks's suggestion that long-term theories of progress should be examined in the light of experience. It was very important to break the barrier between abstract and concrete reasoning.

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PART II

ORGANIZATION IN THE SOCIAL SCIENCES
REVIEWS AND ANNOUNCEMENTS

I. ORGANIZATION IN THE SOCIAL SCIENCES

UNESCO ROUND-TABLE CONFERENCE ON THE TEACHING OF THE SOCIAL SCIENCES IN SOUTH ASIA

Delhi, 15-19 February 1954

The project on the Teaching of the Social Sciences was launched at the 1950 session of the General Conference of Unesco, under Resolution 3.15. Its progress up to and including the meeting of experts in Paris in September 1952, has been recorded in the *Bulletin*.[1] Reports on surveys of social science teaching which had been made in eight countries were considered at the Paris meeting, and the experts issued an agreed statement containing comments and recommendations. The next phase, under Resolution 3.141 of the General Conference of 1952, is now in progress and is planned to include three regional round-table conferences of which the first was the one held in Delhi in February.

Seven countries of South Asia sent representatives, namely Burma, Ceylon, India, Indonesia, Malaya/Singapore, Pakistan and Thailand. The original target as regards representation was three from each country, but it was soon realized that this figure could not be attained. In the event Burma and Malaya/Singapore sent only one each, and the other countries, except India, two each. The representatives were:

Burma: Dr. Htin Aung (Rector of the University of Rangoon).

Ceylon: Mr. S. F. de Silva (Chief Inspector, Department of Education, Colombo) and Dr. R. Pieris (Lecturer in Sociology, University of Ceylon).

India: Dr. J. N. Khosla (Director of Historical Division, Ministry of External Affairs, New Delhi), Professor A. R. Wadia (Director of the Tata Institute of Social Sciences, Bombay), Professor B. N. Ganguli (Professor of International Trade, Delhi School of Economics) and Professor H. R. Gupta (Professor of History, University of the Punjab).

Indonesia: Dr. F. M. W. Tiwon (Counsellor at the Indonesian Embassy, New Delhi) and Dr. Y. Ismael (Director of Economics and Legal Affairs, Ministry of Foreign Affairs, Jakarta).

Malaya/Singapore: Professor T. H. Silcock (Dean of the Faculty of Arts and Professor of Economics, University of Malaya).

Pakistan: Dr. I. H. Zuberi (Vice-Chancellor, Rajshahi University, East Pakistan), Professor G. M. Friters (Head of the Department of Political Science, University of the Punjab, Lahore), and Professor K. J. Newman (Head of the Department of Political Science, University of Dacca).

Thailand: Professor Kasem Udyanin (Dean of the Faculty of Political Science, Chulalongkorn University) and Mrs. Waruni Bintasan (National Institute of Culture, Bangkok).

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[1] Vol. V, no. 1, p. 151, 1953.

Dr. Zuberi submitted a report on Pakistan and a paper on textbooks, but was prevented at the last minute from attending the round table. In addition, Professors C. N. Vakil (Bombay), V. K. R. V. Rao (Delhi), S. F. Nadel (Canberra) and Mr. W. H. Morris Jones (London) attended as consultants. Unesco was represented by Dr. J. D. N. Versluys (Science Co-operation Office, New Delhi), and Miss M. A. de Franz (Unesco House, Paris). Professor T. H. Marshall (London School of Economics), who had been appointed by Unesco to direct the round table, was elected Chairman. The opening address was delivered before a distinguished audience by Dr. S. Radhakrishnan, Vice-President of India and President of the Seventh Session of the General Conference of Unesco, with the Vice-Chancellor of Delhi University presiding.

The first working session of the round table was devoted to hearing statements by the seven rapporteurs. They had already supplied much information about conditions in their countries in the form of answers to a questionnaire which had been circulated some months earlier. Each was now able to supplement this information by giving a summary sketch in which he drew attention to important points on which his country resembled or differed from the others. It became clear at once that the differences within the region were very great. Burma, Ceylon and Malaya, for example, have only one university each, while India has nearly thirty with hundreds of affiliated colleges. A Pakistani student may begin his course of study for the B.A. degree at the age of 16 while in Ceylon he will normally wait till he is 19. For this and other reasons the terms 'undergraduate' and 'postgraduate' do not have the same significance in different countries. In India, economics has been taught for about fifty years and the first chair in sociology was established in 1919, whereas in Thailand, said the rapporteur, the social sciences are still in their infancy. In Burma and Indonesia the demand for social science graduates exceeds the supply, whereas in India large numbers of graduates every year fail to find suitable posts. These examples could be multiplied. At the other end of the scale are those strong common interests and clearly recognized common problems which are found to exist whenever social scientists from any part of the world meet together to discuss their affairs.

In between these two extremes lie the common problems and interests which are particularly characteristic of the countries of South Asia. These are few but important, and are of course found with variations, in some other parts of the world, though not everywhere. They include the question of the suitability for use in Oriental countries of concepts and literaure developed and written, often in quite recent years, in Western countries. There is also the problem of the best way of keeping in touch with developments in the social sciences in other parts of the world where the volume of work done is much greater and progress is therefore much faster. In many of the countries, too, similar issues arise when one considers how far the social sciences, in teaching and research, should be directed towards the dominant practical problems of the country concerned, and what should be the balance between the 'operational' and the 'fundamental' approaches. Closely related to this is the question of how to win for the social sciences a status comparable to that of the natural sciences, both educationally and from the point of view of their practical value to society, and how to ensure that the special skills of social science graduates are adequately employed.

These, together with the whole question of teaching methods (lectures, seminars, tutorials, field studies, etc.), were the main points discussed. Two working parties were formed with the following assignments: Working Party One (rapporteur, Mr. Morris Jones): Teaching methods, translations, textbooks and syllabuses; Working Party Two (rapporteur, Professor Nadel): Conditions affecting the status of the social sciences and external relations generally, e.g. government support, promotion of advanced research, openings for employment, international contacts and exchange of persons, and some aspects of the recruitment and training of teachers. Four papers were presented and discussed in plenary session: Professor Vakil: 'The Unity of the Social Sciences'; Professor Zuberi: 'Translation and Adaptation of Textbooks'; Professor Silcock: 'Some Considerations relating to Recruitment and Academic Discipline'; Professor Rao: 'The Promotion of Advanced Studies'. On the final day the working parties presented their reports to the plenary session; they were discussed, amended and adopted.

It appeared that the observations and recommendations contained in the report of the Paris meeting of experts were in general acceptable and applicable to the countries of the region. But on three points it was felt that some modification, or at least further elucidation, was necessary.

1. Training in research methods. The following two sentences in the Paris report were criticized:

   (a) 'Field work. This is absolutely essential to anthropology and to sociology but of less importance in law and economics.' It was felt that this statement might encourage teachers to underrate the importance of devising means to enable students of law and economics to observe at first hand and under expert guidance the working of the legal and economic systems of their country. In economics, it was thought, some genuine field work might be both possible and beneficial.

   (b) 'No special courses in methods and techniques of research are necessary for undergraduates.' The view was expressed, though it was not unanimous, that undergraduate courses ought to include some study of 'method subjects', e.g. statistics, logic or scientific method.

2. Equality of status for all disciplines. The Paris report states that study cycles must be established in each branch of the social sciences, and that it is essential that 'all these cycles should lead to equivalent diplomas'. The round table thought that, though this might be the ultimate goal, it would be unwise to try to reach it too soon. A new discipline should be content at first to be a partner with others more firmly established, or even to occupy a subsidiary position. Premature independence might lead to isolation. This was discussed with reference to sociology. (It might make its first entry in two ways—by offering a general elementary course to broaden the syllabus of other disciplines, or by being allotted two or more papers at an advanced level as an option in a course for the M.A. or Honours B.A. in another discipline. It was pointed out, however, that it would be unwise to begin with the general elementary course only, especially if this was given by a junior lecturer. Such courses are peculiarly difficult to give and require great experience. The first appointment in a new discipline should be of a senior teacher, who should be given scope to teach his subject at an advanced level and to engage in research. Some members thought, though this was not the unanimous view, that new disciplines should first be introduced at the post-graduate level only.)

3. Range of studies of undergraduates. A passage in the Paris report states that 'students, of whatever branch of the social sciences, should be given a general view of the social sciences as a whole', and there follows a formidable list of topics and disciplines with which they should be made acquainted. The round table held that the list was too long and the emphasis misplaced. Its view was recorded in the report of Working Party One: 'The student can and should be introduced to a general view of social institutions at an early stage. . . . A comprehensive view of the social sciences, on the other hand, should be reserved until a later stage when the student has already had some training in one specialization.' In other words, the stress at first should be on the many-sided unity of social phenomena, and only later on the diversity of disciplines used in the analysis of these phenomena.

The following are among the more important of the other recommendations adopted.

Teaching Methods. Even where the staff-student ratio makes regular tutorials impossible, provision should be made for some personal contact between teacher and student. At advanced levels, seminars and tutorials are essential: if necessary, admission to postgraduate courses should be restricted so as to make this possible. Studies should be made realistic, in the early stages by visits of observation and simple team investigations; at more advanced levels genuine field studies are necessary in most branches.

Reading Material. It is impossible to dispense with textbooks. The translation or adaptation (by merely including suitable illustrations) of Western textbooks is not satisfactory. New textbooks must be prepared suited to the needs of the region. Unesco could help with this, and a start might be made with political science. More use might be made of 'readers' containing passages selected and presented in a manner suitable for the region. (There are three kinds: selections from the 'classics' in a subject; descriptive readings, e.g. about social institutions—these must contain material for comparative study, but with the institutions in the region as the point of reference; collections of articles on topics of special regional importance, e.g. perhaps in economics.) The exchange of bibliographical information within the region was advocated.

Teaching Staff. The quality of the teaching staff is the crux of the whole matter. Salaries must be adequate to attract teachers of good quality. There must be scope for research; the younger teachers should not have too heavy a teaching burden and should be given leave for study abroad.

Faculty Organization. It was felt that no general recommendations could be made, but the aim in the social sciences should be to secure intregration of the separate branches without risking the isolation of social studies from other disciplines.

Employment of Social Science Graduates. It is more important to widen existing openings than to try to create entirely new ones. Social science graduates could be more generally employed, for instance, in local and provincial government service, as professionally qualified welfare workers, in labour departments and other agencies concerned with labour relations, in development projects (especially for surveys), and in training schoolteachers. In order to produce graduates equipped for such work, the universities should develop teaching in such subjects as public administration and labour relations, and practical training for social workers.

Status of the Social Sciences. In most countries economics has won a status

higher than that of the other social sciences. To remedy this discrepancy in status, universities should try to secure a balanced development of all branches of social studies. Where national 'Academies of Letters' exist, the social sciences should be included, and the possibility of setting up Social Science Research Councils should be seriously considered.

Research Institutes. No general recommendation was made about setting up research institutes (governmental or private) outside the universities. It was agreed that, in all cases, there should be close co-operation between universities and research institutes. But care should be taken to avoid overburdening professors with the administrative duties of running institutes, while, on the other hand, it should be remembered that independent institutes may withdraw from the universities research which is a necessary part of the work of a postgraduate department.

Overseas Training and Teaching Missions. It was felt (the Pakistan representatives disagreeing) that more was gained from periods of study abroad than from the sending of teaching missions to the region, and that Unesco should allocate its funds accordingly. This recommendation had no bearing on visits of foreign scholars selected and invited by the universities of South Asia. It was suggested that, when a national social science association was holding a meeting in a country in the region, Unesco might provide travel grants to enable representative scholars from other countries in the region to attend and hold a regional seminar on some selected topic.

It is hoped that these recommendations will be examined at the national level. Some of them call for co-operation within the region and beyond it. In these cases Unesco can help to get action started and sometimes can provide continuing services. This is true in particular with regard to the questions of textbooks and other literature, the exchange of bibliographical information, and the travel of scholars for study and training both within the region and outside it.

SEMINAR ON ECONOMIC MOTIVATION ORGANIZED BY THE INTERNATIONAL RESEARCH OFFICE ON SOCIAL IMPLICATIONS OF TECHNOLOGICAL CHANGE

Paris, 1 to 6 March 1954

During the first week in March, the Research Office organized an international seminar, which was attended by experts of various disciplines (anthropology, psychology, political economy and human geography). The theme of the seminar was 'Comparative study of economic motivations and incentives in customary and "modernist" surroundings within the framework of the so-called underdeveloped countries'. This theme had been defined, in co-operation with Unesco's Department of Social Sciences, with a view to broaching an important practical problem and provoking an interdisciplinary study corresponding to the present needs of the different social sciences.

The first work session was presided over by Mr. Luther H. Evans, Unesco's Director-General. In his address, he underlined the special interest attaching to this first seminar, which came within the category of the Research Office's main activities. Professors R. Firth (London School of Economics and Political Science) and M. J. Herskovits (North-Western University, Evanstone, Illinois) were elected chairman and vice-chairman respectively, and Professor G. Balandier (Institut d'Études Politiques, Paris) rapporteur.

The work was organized on the basis of themes for the orientation of the work sessions. Within the limits of this short note we can do no more than mention these themes, which were: General introduction to the problem of economic motivations and incentives; Impact of modern economy; The rural environment in transition; Adaptation to the industrial enterprise and environment; Results of the work, and suggestions for future research.

All the joint investigations were based on papers drawn up by the participants; these papers will be included in a publication dealing with the work of the seminar. We feel however that we should here record their titles, which were as follows: 'Motivation and culture pattern in technological change' (M. J. Herskovits); 'Money, work and social change in peasant communities of South-East Asia and the Western Pacific' (R. Firth); 'Mahatma Gandhi's views on machines and technology' (D. P. Mukerji); 'Capitalist development in Indonesia and in Uganda, a contrast' (J. H. Boeke); 'Recruitment of white-collar workers, their motivations and incentives in underdeveloped economies' (B. F. Hoselitz); 'Problèmes du travailleur africain au Gabon et au Congo' (Problems of the African worker in Gabon and the Congo) (G. Balandier); 'Productivité du travail et stabilité de la main-d'œuvre indigène dans les entreprises industrielles et les plantations du Congo Belge' (Productivity of work and stability of native labour in the industrial enterprises and plantations of the Belgian Congo) (A. Doucy); 'Perspectives offertes par l'évolution économique et sociale récente des Eskimos de Thulé' (Prospects opened by the recent economic and social evolution of the Thule Eskimos) (J. Malaurie); 'Trois communautés indigènes au Pérou' (Three Indian communities in Peru) (M. Matos Mar).

Professor R. Firth, as chairman of the seminar, summed up in a general statement the reflections to which the work and discussions as a whole gave rise. He emphasized that agreement had been reached on a number of points and that, despite the variety of experience, studies were progressing by very similar methods.

The notion of economic motivation could not be considered purely in the abstract, but it formed the background to all the discussions and became less impalpable through the study of more general phenomena and 'situations' in which it found expression. It had, moreover, been taken up simultaneously by the methods proper to each of the disciplines represented. Such a comparative study, by bringing into relationship widely different systems of references, clearly showed the need for a combined approach to the problem and constituted a warning against the shortcomings of any 'unilateral' examination. Several of the participants frequently recalled that motivations could not be considered individually, but only as part of combinations which varied according to circumstances. This was a way of indicating the necessity of interdisciplinary study.

Theoretical considerations, related moreover to suggestions for future research, made by all the participants, occupied a major place in each work session. There were several reasons for this. Collaboration between experts from the various social sciences, studying a given question in terms of their respective techniques, created a difficult problem of adjustment. The different terminologies, ways of expressing ideas, and methods of study peculiar to each discipline did not facilitate immediate co-operation. This question was raised by Dr. A. Ombredane—how was practical and sustained collaboration in joint research on a given subject to be secured? Professor A. Doucy emphasized, nevertheless, the exemplary value of the first results obtained and indicated that the seminar had led him to consider the organizing of a further meeting of the same kind (during the last quarter of 1954) within the framework of the Institut de Sociologie Solvay, Brussels.

Apart from the themes for the orientation of work sessions, it was found that related

research was essential, as it would throw more light on the problems raised by those themes. A list of proposed subjects for research was drawn up in relation to three types of problems: the study of motivations and their characteristics; the study of processes; and the study of groups (professional, co-operative, etc.). It should lead to detailed consideration of the problems raised by industrial development and the modernization of economies, and should be a first step towards facilitating the long-term evolution of a general theory of social change.

ENQUIRY INTO THE SOCIAL EFFECTS OF INDUSTRIALIZATION IN AFRICA

As part of the study undertaken by Unesco of the social repercussions of technical progress, the International African Institute in London, represented by its director, Professor Daryll Forde, agreed to organize a survey, under Unesco's control, of an urban tropical community in Negro Africa, whose social structure has been profoundly affected by the incursion of Western economic practices.

The investigation in the field lasted from January 1951 to April 1953.

The research team numbered three: a Belgian ethnologist, Mr. P. Clement; a British sociologist, Mr. V. G. Pons; and a French psychologist, Miss N. Xydias, all working in close collaboration to achieve a comprehensive survey of the community in question.

The community selected was Stanleyville (Belgian Congo), chosen at the suggestion of the Belgian Government, which had agreed to receive the research team and gave them most valuable moral and material assistance.

Stanleyville lies on the banks of the Congo, some 30 miles north of the Equator, amidst forest country, at a junction of road, river and rail communications serving the whole of the Eastern Province. Although the town is primarily a trading centre, many small and medium-sized industries have been started there. The population consists of some 4,000 whites and 40,000 blacks. Belonging mostly to patrilinear groups speaking the Bantu language, these blacks form, nevertheless, a relatively heterogeneous society, as in many of the larger urban centres in Africa. More than 100 different tribes are represented, and, to understand each other, they resort to a lingua franca, Swahili. But the many different contacts consequent upon migration and, perhaps even more, the pressure of a geographically hostile environment, have produced social systems whose main characteristics are more remarkable for their points of resemblance than for their differences.

Forty-three per cent of the adult black population have lived in Stanleyville for less than five years and 23 per cent from between five and ten years. In most cases these blacks were born in tribal villages, moved first to small European stations, where they worked a few years, and later found their way to the big town, sending for their wives and children as soon as they got work.

With 85 adult females to every 100 males, the sex ratio is better balanced in Stanleyville than in many African towns. Thirty-seven per cent of the working population, which is almost entirely male, consists of unskilled labour, 43 per cent of skilled or semi-skilled workers, and 10 per cent of clerks (the remaining 10 per cent are not wage earners).

The blacks live in the Extra-Customary Centre (CEC) in three separate quarters on the edge of the European town. The administration allots them 'holdings' of land on which they build a house of mud or, occasionally, brick. Often several families live on the same holding, each usually building a separate house.

The research team used the following different techniques:

A sample survey of about 12 per cent of the population was made, examining the socio-demographic structure, composition of families and households, the marriage systems, divorce, fertility, migration, occupations and degree of urbanization. Interviews, spread over about seven months, were conducted with the help of a team of African clerks, recruited locally and trained for this purpose.

The object of the survey was to provide a framework for the whole project and to enable the various other data gathered to be interpreted in the light of information thus obtained.

Two districts of the Extra-Customary Centre were selected for closer study: one is in the oldest quarter, nearest to the European town and inhabited mostly by 'advanced' blacks; the other is on the outskirts of the town and has more of the characteristics of a village, being peopled by more or less primitive natives, most of them unskilled labourers. Investigations in these two districts covered family and social life. Biographical facts and case histories were collected and legal archives examined. The investigation was mainly concerned with the legal forms of marriage, the main features of customary marriage, betrothal and marriage in the town, and matrimonial values and disputes. Relationships with neighbours and friends were also analysed by direct observation, through interviews, sociometrical tests, and so on.

Parallel with this work among small groups living in a geographically restricted area, a general survey—in the form of statistics, monographs and comparative tables—was made of voluntary associations throughout the Extra-Customary Centre. An attempt was made to classify these associations on the basis of specific criteria—membership, official aims, etc. An analysis of their structure covered the composition and organization of associations, while an analysis of their functions, both from the historical and the present-day perspective, should reveal, among other elements, the true place of these associations in private and social life, as well as the extent to which, in practice, they do or do not deviate from their declared aims.

Special attention was paid to 'advanced' blacks. The research team set out to learn their mode of life, how they rise to a higher social level; their opinions on problems connected with the family and tribe, the law, politics, education, occupation, etc.; their conception of social categories or classes and of leadership; their level of cultural development in different fields, their aspirations.

One member of the team concentrated upon a study of labour conditions; the economic structure of the town was analysed, also methods of enforcing industrial legislation, and trade union activity.

In one factory, selected as a sample, all the workers were interviewed and their merit ratings assembled; data were also collected for a study of turnover and absenteeism.

A number of psychological tests was carried out on three groups of workers—clerks, drivers and unskilled labourers. These tested the men's mental level, attitude towards work, prestige enjoyed by different occupations.

Lastly, tests were given in the schools—tests proper and various experiments such as questionnaires directed towards discovering the stereotypes of whites and blacks, sociometrical tests and written answers to questions on different subjects.

Part of the material collected has been analysed and embodied in a report which is to be published.

ECONOMIC RESEARCH LABORATORY OF THE FACULTY OF LAW, RENNES

The Economic Research Laboratory of the Faculty of Law at Rennes was established in 1949 to promote all types of economic and statistical studies, of general or local interest. For this purpose it maintains contact with several local institutions, such as the Geographical Laboratory of the Faculty of Arts (Rennes), the Regional Statistical Office, the Ecole Nationale d'Agriculture at Rennes, etc.

The laboratory is directed by Messrs. Henri Denis and Henri Krier, professors of the Faculty of Law, who are assisted by a technical collaborator responsible for statistical research, and by a shorthand typist. The help of professional draughtsmen is available when required. Equipment includes a library and work-room, a calculating machine, and various machines for making photographic reproductions—all of which can be used by research workers.

The principal tasks already completed or at present engaged upon are as follows:

An enquiry directed by Mrs. Jane Aubert-Krier, professor at the Rennes Faculty of Law, and carried out in order to discover, by means of questionnaires sent to the heads of local business enterprises, the principles on which they base their production and price policy.

Under the supervision of Mr. Henri Krier, Mr. Le Bourva made a study of the balance-sheets of the Banque de France, the results of which were published (see below). Mr. Henri Krier also took part in the work of the Rural Investigation Committee which was set up at Rennes to prepare a detailed monograph concerning the district *(canton)* of Montfort-sur-Meu. The first subject dealt with was the vital statistics of this district.

Under the direction of Mr. Henri Denis, a study is being made of the distribution of real estate in the department of Ille-et-Vilaine in 1846, 1913 and 1953. The cadastral registers covering one district *(canton)* of the department were drawn upon for the preparation of 12,000 index cards, which are now being mechanographically analysed. It is the first study of its kind to have been made in France (this type of investigation having hitherto been conducted commune by commune).

Mr. Ostermeyer, the present technical collaborator of the laboratory, has completed a study entitled 'The demographic consequences of alcoholism in Brittany', the chief purpose of which was to establish the relationship between the consumption of alcohol and the death rate. He is at present preparing a lengthy survey of the sardine trade in Brittany.

In conclusion, it should be mentioned that the laboratory has been of great service to several students who were preparing theses for their doctor's degree. Many of the theses on economic subjects recently presented at the University of Rennes could not have been completed without the laboratory's assistance.

PUBLICATIONS

Prepared in the Laboratory

J. Le Bourva, *Le bilan de la Banque de France*, 1950.

P. Ostermeyer, *Les conséquences démographiques de l'alcoolisme en Bretagne*, 1950.

J. Aubert-Krier, *Tableaux synoptiques d'histoire économique*, 1950. (An enquiry, conducted by means of questionnaires addressed to heads of business enterprises, relating to the conditions governing their price levels and their production and sales policy.)

In co-operation with the Comité d'études rurales d'Ille-et-Vilaine, *Studies relating to the district* (canton) *of Montfort-sur-Meu.*

Doctors' Theses

A. Le Guen, *L'économie agricole des Côtes-du-Nord*, 1950.
B. Quillon, *De l'utilisation optimum du facteur travail*, 1950.
H. Le Calvez, *La sensibilité des impôts sur la dépense en période d'inflation*, 1950.
J. Hardy, *L'industrie des constructions navales en France*, 1951.
J. Le Bourva, *L'inflation française d'après-guerre*, 1952.
Maujouan du Gasset, *Le muscadet*, 1953.
J. Perrot, *Productivité et prix de revient dans les arsenaux de la marine nationale*, 1953.
Caro, *Le régime des artisans en matière d'impôts directs*, 1953.

INSTITUT DE SCIENCE ÉCONOMIQUE APPLIQUÉE

35 boulevard des Capucines, Paris

The Institute of Applied Economics (IAE) is a self-governing body for scientific research, founded in 1944 as a private, non-profit-making association by Professor François Perroux, of the Paris Faculty of Law.

The IAE is directed by Mr. François Perroux with the help of two assistant-directors, Mr. G. Th. Guilbaud for scientific research and Mr. Pierre Pujade for administration.

It has two offices—a headquarters in Paris, at 35 boulevard des Capucines, 2e (OPE. 98-15), and a London office (Director: Mr. Georges Rottier) at 3 Queensberry Place, South Kensington, S.W.7 (KNI. 2017).

Its aims, which have remained unchanged since its establishment, are:

1. To study practical present-day economic problems, in the light of the most up-to-date findings of economics;
2. To promote original research, at the theoretical level;
3. To arrange for contacts and exchanges, as extensive and lasting as possible, between French and foreign economic thought.

For the last 10 years, the IAE has been conducting a wide variety of activities for the implementation of its programme, and their results have been disseminated through several series of publications.

CAHIERS (PAMPHLETS)

The results of pure research are published in series of roneoed *cahiers* or pamphlets, describing the successive stages of work carried out in various branches of economics.

Series A. International Monetary Plans and Foreign Investment

In this series, the institute has been dealing since 1944 with the monetary plans drawn up during the war (Keynes, White and Ilsley plans, April 1944 Statement of Experts) and with the Bretton Woods agreements. For two years now it has been issuing, under the direction of Mr. Maurice Bye, professor of the Paris Faculty of Law, a series of reports on the problem of foreign investment as it has arisen since the war. The morphology, theory and practice of investment were the subject of the first *cahiers*, which were followed by volumes dealing with investment in French dependencies, and later with foreign investment in a 'market' economy. These two volumes will be supplemented by two others covering investment in a 'non-market' economy. All this will culminate in the evolving of an up-to-date theory of foreign investment.

Series B. Remuneration of Labour and the Wages Policy

In this field, the institute has, since 1944, been preparing reports which might be used as a basis for a coherent wages policy, and which constitute valuable reference works for theorists and practical economists alike. The main reports are: *Les caractères contemporains de la rémunération du travail* (Present-day features in the remuneration of labour), *Salaire et rendement* (Wages and output), *La participation des salariés aux responsabilités et aux résultats de l'œuvre de production* (Wage-earners' participation in the responsibilities and outcome of production), *Salaire et consommation* (Wages and consumption), *Le coût et le prix* (Cost and price), *Salaires et prix* (Wages and prices) (theoretical study of static models) and *Les différents comportements du consommateur et leur détermination statistique* (The various types of consumer behaviour and their statistical determination). These reports were supplemented in 1953 by a work in two volumes, prepared entirely by the London office of the institute, entitled *Les salaires en Grande-Bretagne* (Wages in Great Britain.)

Series C. Social Security

Between 1944 and 1946, the institute published a series of studies on the current problem of social security. It issued a detailed analysis of the Beveridge Plan (on which the present British system is partly based) and of the social security schemes of the United States of America, Canada, New Zealand, Australia and the Union of South Africa. An enquiry was then conducted and published on the joint problem of medical organization and social security in England and France.

Research is now in progress on the following economic aspects of social security: statement of problems; choice of machinery for social security; finance and administration; relationship between social security and the national product, and between social security and the national economic structure; management of national resources; social security and economic growth.

Series D. The National Income and Economic Growth

The institute has here been the initiator of research carried out in France since the Liberation. Under its impetus, the Ministry of Finance and Economic Affairs decided to make calculations of the French national income subsequent to 1944. Initial research in this field was based on the *cahiers* published on the question, the relevant titles being *Evaluation du revenu national et ses utilisations* (Assessment of national income and its uses), *Conditions et travail nécessaires au calcul du revenu national français* (Conditions and work necessary for the calculation of the French national income) and *Tableau de la comptabilité et du revenu de la nation* (Table of the nation's accounts and income). Later work was assisted by such publications as *Vers une évaluation correcte du revenu national français* (Towards a correct assessment of the French national income), *Revenu national et déficit budgétaire* (National income and budgetary deficit) and *Comptabilité sociale et politique économique en France* (Social service accounting and economic policy in France), all of which reflect the progressive improvements made in calculating the national income in this country.[1]

In addition to conducting its own research, the institute has selected and translated leading foreign publications on the same subject. In this work, it had the help of the Finance Ministry's translation service. Two special issues of *L'actualité économique et financière* (Economic and financial news) summed up these reports for the public in items entitled 'Le revenu national' (The national income) and 'La fortune nationale' (National wealth).

The institute keeps in regular touch with the Finance Ministry's Service des Études

[1] In addition to these publications, mention should be made of *Les comptes de la nation* (The nation's accounts), by Mr. François Perroux, Pragma series, P.U.F., Paris, 1949.

Économiques et Financières, directed by Mr. Claude Gruson, and more particularly with the section concerned with the national economic accounts. The institute is continuing its work in co-operation with this section and with the Commission des Comptes Économiques de la Nation (National Economic Accounts Committee); Mr. Mendès-France is chairman of the latter, while Mr. François Perroux is chairman of its Sous-Commission des Méthodes (Methods Subcommittee).

As in the case of the national income, the institute undertook, three years ago, the first research conducted into French economic development since 1780 (expansion, structural changes, changes in types of organization, progress). After drawing up the report on France for the Congress of the International Association for Research in Income and Wealth, held at Royaumont in August 1951 (whose agenda included the problem of economic growth), the institute continued and intensified its research on this subject. In 1952, it published a *cahier* setting forth and commenting on the first series of statistics; this will be followed by the necessary theoretical studies of the actual concept of economic growth. The institute will thus have achieved its aim in this field, which is to produce a comprehensive survey of economic development that will serve as a basis for a systematic, quantitative analysis of this development and of its various aspects referred to above.

Series E. The Mathematics of the Economist

To meet the needs of present-day economists, Mr. G. Th. Guilbaud, assistant director of the institute, launched this series of *cahiers* dealing with the use of mathematics in political economy. He intends to prepare a handbook bringing out the points of contact between economic research and mathematical methods; this implies, not the application of established mathematical processes, but collaboration between economists and mathematicians.

The first *cahier* published in this series is entitled *Leçons sur les équations fonctionnelles* (Lessons on functional equations), and serves as an introduction to the elementary theory of recurring equations. The second will deal with dynamic processes in general and will develop the elements of the matrix theory.

The series will cover the following subjects: (a) Functional equations and matrix models; (b) Vectorial econometry (statistical methods of adjustment); (c) Matrix accounting (as applied to social service accounting); (d) Theory of play (modern extensions of the theory of selection and decision); (e) Statistical analysis of fluctuations (time series, cybernetics).

QUARTERLY REVIEW

In 1948 the institute launched its review *Économie Appliquée* (Applied economics), with the aim of providing French economic research with a periodical whose scientific level would be similar to that of the leading specialist reviews of other countries, but whose articles would all be designed to contribute to the solution of practical economic problems.[1] This review, now familiar to specialists the world over, has followed the practice of alternating issues known as *Mélanges* (Miscellanies) with special issues centred upon a particular theme. Some of these might well be classified as standard 'reading' on a given subject; such are *John Maynard Keynes, Revenu national et budgets nationaux* (National income and budgets), *La comptabilité sociale* (Social service accounting), *Le plein-emploi* (Full employment), *L'oligopole* (Oligopoly), *L'avantage collectif* (General profit), *La zone sterling* (The sterling area) and *Croissance et fluctuations économiques* (Economic growth and fluctuation). A group of articles on public finance is in preparation, with the collaboration of senior officials of the Finance Ministry; they

[1] The review's editorial board consists of Messrs. François Perroux, Emile James, Maurice Bye, Pierre Fromont and Henri Guitton, professors in the Paris Faculty of Law, and Messrs. G. Th. Guilbaud and Pierre Pujade assistant directors of the IAE.

will discuss the main financial and budgetary problems of today, from both the practical and the theoretical standpoint.

'THEORIA' AND 'PRAGMA' SERIES

The institute has launched these two series of publications with the Presses Universitaires de France, in order to provide wider circulation for some of its *cahiers* and for original works written either by members of its own staff or by outside experts who subscribe to the institute's scientific concepts and theories.

LECTURES, STUDY COURSES, ETC.

Ever since the end of the last war, the institute has been endeavouring to re-establish with other countries the scientific contacts severed by five years of hostilities and occupation. Leading economists and professors of other countries have delivered addresses at the institute's premises. It would be impossible here to give an idea of the wide variety of subjects dealt with; suffice it to say that, thanks to the high standard and number of talks given, French economic research workers have been kept abreast of the development and progress of economics abroad. Among the authorities who have come to the institute—some of them on several occasions—to describe the latest results of their individual research, mention may be made of: Jinn Akerman, Kenneth Arrow, Thomas Balogh, Edward Chamberlin, Colin Clark, Léon Dupriez, Milton Friedman, Corrado Gini, R. M. Goodwin, Gottfried Haberler, Albert Hahn, Albert Hart, Friedrich von Hayek, Eduard Heimann, Mrs. Ursula Hicks, J. R. Hicks, Walter Hill, William Jaffe, Nicholas Kaldor, Michäl Kalecki, T. Koopmans, Wassili Leontief, Arthur W. Lewis, Friedrich Lutz, Fritz Machlup, Arthur Marget, Jacob Marschak, Oskar Morgenstern, Ludwig von Mises, Ugo Papi, Dennis Robertson, Mrs. Joan Robinson, P. N. Rosenstein-Rodan, R. S. Sayers, Erich Schneider, Carl Shoup, J. R. Stone, Paul Streeten, G. Tintner, Robert Triffin and David Worswick.

For some years, these series of talks have been arranged around some central annual theme, so as to bring to bear on each the knowledge and experience of the leading foreign specialists. The subjects treated in 1951, 1952 and 1953, for instance, were 'Contemporary economic analysis', 'General profit', and 'Economic growth and fluctuation'.

ISTITUTO DI ECONOMIA INTERNAZIONALE

Chamber of Commerce, Industry and Agriculture. Genoa

The Istituto di Economia Internazionale was founded in September 1945 under the auspices of the University of Genoa and of the Camera di Comercio, Industria e Agricoltura di Genova (Genoa Chamber of Commerce, Industry and Agriculture), where it has its headquarters. However, it did not officially begin to function until 4 November 1946, when it was formally inaugurated by the President of the Italian Republic, Mr. Enrico De Nicola.

The Istituto di Economia Internazionale was set up in order to furnish practical information and promote scientific research, with a view to contributing to the development of research in the field of international and maritime economics. Its main objects are:

1. To ensure the systematic collection, preparation and interpretation of documents on national, international and maritime economics.
2. To promote and carry out systematic scientific research in the field of national, international and maritime economics, which, owing to their complex nature, call for methodical and co-ordinated studies.
3. To assist students of theoretical problems relating to national, international and maritime economics.
4. To advise businessmen on practical problems of national, international and maritime economics.
5. To provide information about national, international and maritime economics, disseminated in Italy and abroad by news agencies and public and private bodies.
6. To promote cultural contacts and exchanges with similar Italian and foreign institutes and with international organizations, and to co-operate in any projects launched by them.
7. To attach research and correspondence units to economic associations, statistical offices, research centres in Italy and abroad, and to Italian commercial diplomatic offices in foreign countries.
8. To organize lectures, meetings and conferences, of a theoretical and practical nature, on the subject of national, international and maritime economics.
9. To train graduates and undergraduates in scientific research with regard to national, international and maritime economics; and to train experts in these branches of theoretical and practical economics.

In the execution of its difficult and substantial task, the institute seeks to meet the needs of the economy in the private and public sectors, striving to attain to complete objectivity and scientific precision. To that end it draws upon two sources of knowledge and experience: that offered by contact with the most distinguished experts in national and international economics, and that provided by the systematic research undertaken by the foremost students of national and international economics.

As part of its own activities, the Istituto di Economia Internazionale organized, during April and May 1947, a series of lectures on International economic problems; these were given by Professors Amoroso, Bandini, Demaria, Gini, Lenti, Travaglini and Vito. Another series of lectures on international economic problems was organized, in March 1950, in co-operation with the Società Italiana per l'Organizzazione Internazionale (Italian Society for International Organization).

The Istituto di Economia Internazionale also took an active part in the preparation and work of the International Congress of Parliamentarians and Experts for the Development of Trade Exchanges, which, held at Genoa in September 1948, was attended by 753 delegates from 49 countries; and of the International Conference for the Study of the Economic Problems of Federated Europe, held, likewise at Genoa, from 11 to 14 September 1952.

Lastly, representatives of the Instituto di Economia Internazionale have actively participated in the main economic congresses held in Italy and elsewhere.

The publishing activities of the Istituto di Economia Internazionale cover periodical and non-periodical publications.

Since 1948 the institute has been publishing the review *Economia Internazionale* (International economics), which has subscribers in all parts of the world—its director being Professor Volrico Travaglini (*ordinario*, University of Genoa) and the editor Professor Orlando D'Alauro (University of Genoa). The controlling committee is composed of Professors Luigi Einaudi (President of the Italian Republic), Luigi Amoroso (*ordinario*, University of Rome), Constantino Bresciani Turroni (*ordinario*, University of Milan), Epicarmo Corbino (*ordinario*, University of Naples), Gustavo Del Vecchio (*ordinario*, University of Rome) and Pasquale Jannaccone (*ordinario*, University of Turin), Dr. Francesco Manzitti (President of the Genoa Chamber of Commerce, Industry and Agriculture), and Professor Volrico Travaglini.

The review is published in quarterly volumes of 250-300 pages each; it contains articles by outstanding economists of all countries, and information about international economics and the national economies of the various countries. The material is published

in its original language. Summaries of articles are given in the five main languages (Italian, French, English, Spanish and German). Each number also contains book reviews, detailed bibliographical notes, information about articles published in periodicals, and approximately 150 abstracts of such articles; this constitutes a complete large-scale survey of what is published in the main economic and financial periodicals of all countries and international organizations.

Information about articles in periodicals, and abstracts of such articles, are also separately published in the *Bollettino Bibliografico ed Emerografico di Economia Internazionale*, another quarterly issued by the Istituto di Economia Internazionale.

The institute further publishes a *Collana di Note Informative e Documentazione* (Collection of Informative Notes and Documentation). This series has included, *inter allia:* in March 1947, *L'industria italiana nel 1946* (Italian industry in 1946), 121 p.; in June 1947, *Norme per l'incremento della economia agricola dell'U.R.S.S.* (Norms for the expansion of the Soviet agricultural economy), 61 p.; in November 1949, *Le recenti svalutazioni monetarie e il commercio con l'estero dell'Italia* (The recent currency devaluations and Italy's foreign trade), 91 p.; and in September 1952, *Introduzione Statistica allo studio dei problemi economici dell'Europa federata* (Statistical introduction to the study of the economic problems of Federated Europe), 164 p.

Recently, the Istituto di Economia Internazionale published the *Actes du Congrès international pour l'étude des problèmes économiques de la fédération européenne* (Records of the International Conference for the Study of the Economic Problems of Federated Europe), 609 p.

The Istituto di Economia Internazionale has a well-equipped and up-to-date specialized library, which receives approximately 800 periodicals from 58 different countries and 11 international organizations. The library is open to students and business men.

Since its establishment, the institute has been under the direction of Professor Volrico Travaglini, *ordinario* in political economy at the University of Genoa. The Deputy-Director is Professor Orlando D'Alauro, of the same university. The institute's staff consists of young university assistant professors and graduates in economics and commerce, possessing a very good knowledge of the main foreign languages.

INSTITUT DE RECHERCHES ÉCONOMIQUES ET SOCIALES DE L'UNIVERSITÉ DE LOUVAIN

AIMS AND ORGANIZATION

The Institute of Economic and Social Research of the University of Louvain was founded in 1928, on the initiative of Professors A. E. Janssen, L. Dupriez, P. van Zeeland and F. Baudhuin, for the promotion of economic research.

Since its establishment, one of the main objects of the institute has been to prepare periodical diagnoses of the economic situation in Belgium, using methods evolved at Harvard and Berlin. From 1930 to 1940, these diagnoses were prepared and published quarterly and, since 1940, they have been continued in the institute's bulletin.

Since 1947, the institute has also been publishing a monthly digest of the economic situation, including a diagnosis of the situation in Belgium, a brief review of economic developments abroad and a detailed study of some particular economic problem placed in its general setting; through this study, attention is focussed in turn on the various new problems arising in each sector of the economy.

All these studies are based on the most up-to-date statistics and, in order to save time, many indexes, for instance, for the whole price system, are calculated by the institute itself.

The digest is so planned as to provide a small number of subscribers with a general, critical summary of the economic situation. Subscribers are the leading public and private bodies in the country which require an economic analysis. Three days after receiving the monthly digest, representatives of these bodies meet to discuss the results of the studies, and in this way keep in close touch with the institute.

The institute also publishes in its bulletin an annual report on the situation in Belgium during the past year; this deals mainly with public and private finance, the various branches of industry, agriculture, social developments, exchanges, the balance of payments, consumption and the national income.

The institute's bulletin is published in eight parts; in addition to the annual report just mentioned, there are two issues containing original articles on economics, four quarterly issues dealing with the economic situation in Belgium, and one containing articles on sociology. It thus covers all the institute's fields of interest.

Apart from the preparation of periodical diagnoses of the economic situation, the institute is concerned with the university training of candidates for an ordinary degree or for a doctorate; it establishes contact between research workers carrying out economic or sociological research under the guidance of professors appointed by the institute's council. It also conducts sociological investigations, either to provide the necessary information for its own studies, or on behalf of national or international organizations.

The library of the institute and its statistical archives place at the disposal of study services and research workers very full documentation—much of it original—on the economic life of Belgium, together with a number of general economic and sociological reference works.

OBJECT OF RESEARCH

The preparation of periodical diagnoses of the economic situation in Belgium meant that basic methods had to be worked out and historical standards of reference established The institute's first task, therefore, was to work out methods of analysing the economic situation and to compile monthly statistical series starting from 1897. Similar statistics were then compiled for the period 1872-96 and for the Belgian Congo. The specific reactions of the complex of prices in Belgium were then examined, following which indexes of price groups were established and the theory of parity of purchasing power was systematically analysed and applied to Belgium.

Another basic concern of the institute since its foundation has been the detailed study of the progressive development of long-term movements, as well as of evolutionary processes extending over centuries. Analysis of price movements, of repercussions in commodity values and of monetary factors provided a basis for a general explanation of long-term movements; a statistical study of evolutionary processes, with special reference to logistic trends, led to a restatement of the theory of long-term movements, i.e. of economic progress, mainly in terms of classical theses.

At a later stage, the study of general economic movements was further extended through the historical analysis of individual business concerns, such as collieries, zinc and coke industries, glass works, and so on. The specific reactions of each firm both in the cycle and the long-term movement were thus linked up with the general system of explanation.

These various studies were conducted concurrently with statistical analyses of the economic situation. Their main object was to prepare diagnoses based on an analysis of the various factors in the economic movement, but not implying any forecast or prognostic. Emphasis is laid on the importance of the price system; within the framework of the peculiar requirements of the Belgian economy, special attention is given to problems of structure. In these studies, economic life is regarded as an ever-changing reality, subject to spontaneous reactions and internal tensions, explained as a function of the most deep-seated human motivations.

Developments extending over centuries and long-term movements are not studied from the same standpoint as the economic situation; a long-term movement cannot

be regarded as a mere extension of a short-term movement. The dominant considerations in the study of long-term movements are their peculiar pattern of development, doctrines relating to them, the action of monetary factors, with special reference to the currency holdings most sought after, and their explanation in terms of the ends pursued.

Recent studies of the economic and monetary situation have been concerned with controversial points of doctrine. Mention might be made of the determination of the conditions of full employment implicit in current money and exchange theories, and the working out of alternative solutions of under-employment; monetary influences on rates of interest, from a comparison of the explanatory systems of Walras and Keynes; self-financing; the explanation of movements in terms of human decisions, and so on. In the field of international trade, the institute has embarked on a study of Belgium's terms of exchange since 1913. These studies are still in progress.

With regard to labour questions, the institute has made contributions to the theory of wages, the inductive study of strikes, problems connected with the linking of wages to the cost-of-living index, and the inductive study of remuneration.

Further studies at present being carried out relate to the history of prices under the old régime, to the economy of the underdeveloped countries and to market structure.

As regards sociology, the institute's research workers are at present engaged in a study of urban society and of opinion problems connected with social evolution and unemployment.

The approach to these various studies is somewhat different from that of many research centres today, in that the doctrinal starting point of research is not the contrast between real and monetary values, the determination of the scale of an economy on the basis of aggregates, or explanatory systems hinging upon the mechanical character of economic reactions. The starting point of research is more usually Walras' theory of general interdependence, which has to be supplemented by an interpretation of the long-term operation of a given economy. The methods used for assessing the economic situation seem adequate for furnishing these supplementary data.

ÖSTERREICHISCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG

The Österreichisches Institut für Wirtschaftsforschung (Austrian Institute for Economic Research) was founded in 1926 under the title of Österreichisches Institut für Konjunkturforschung. As the result of political developments, the name was twice altered; after the German occupation of Austria in 1938, it had to be changed to Wiener Institut für Wirtschaftsforschung, and after the end of the war, in 1945, the present name was chosen.

The immediate occasion of the founding of the institute was the economic crisis of the 20's, which led the League of Nations to encourage the establishment of institutions for research into economic cycles. Following the United States of America, the United Kingdom, Germany and Italy, Austria was the fifth country to set up such an institute.

The institute was deliberately not organized as a state institution but as a private corporation to serve the public good. Events proved the wisdom of this choice, as it was only by this means that the institute was able to preserve its character and independence through a period of great upheaval in domestic, foreign and economic policy, and to serve the common weal in an objective, non-partisan spirit, without being bound to particular interests.

The governing bodies of the institute, the Board of Directors and the Board of

Trustees, include leading representatives of the appropriate ministries and economic councils, the federation of industrialists and the federation of trade unions, and the banks and companies most directly concerned. The close contacts between the institute and a large number of civil servants, officials and employees of public and private economic associations are invaluable, affording much useful insight into economic affairs.

The institute, however, also has close links with the business world. It has over 1,000 subscribing members, and more than 3,000 industrial and commercial undertakings regularly send it reports on production, turnover, supplies, business, etc. Thanks to this strong support in every department of economic life and economic administration, the institute has at its disposal sources of information hardly equalled anywhere else in Austria. The daily papers and technical journals, and also the wireless, pay great attention to the institute's investigations and reports.

The staff of the institute is comparatively small—46 persons at the end of 1953, including 27 political economists and statisticians.

At the outset, the institute's work was confined to recording the course of economic developments and making systematic forecasts. As the years passed, however, and especially after 1945, analysis of Austria's economic development, with special reference to its connexion with world economics, and the investigation of major problems of political economy came to occupy a steadily increasing place in its activities.

Only a part of the institute's work is published. Among its publications the most important are the *Monatsberichte des Institutes für Wirtschaftsforschung* (Monthly reports of the Institute for Economic Research), which are circulated and used not only in Austria itself but also (in some cases, under exchange of publications arrangements) in 50 different countries in all parts of the world. The leading article in this monthly publication usually gives a general picture of Austrian economic life, providing the latest information and drawing attention to certain important problems. Major developments in regard to currency, the money and capital markets, prices and wages, agriculture and forestry, power, industrial production, turnover, the labour situation, commerce, the foreign tourist trade and the export trade, are also reviewed in the light of the latest statistics. The monthly reports likewise include essays on a variety of economic problems and detailed statistical appendixes, with about 1,600 different statistical series and indices, and monthly data and averages for previous years. *Beilagen* (supplements) or *Sonderhefte* (special numbers) are occasionally issued, dealing with major research projects on current economic problems or with longer-term studies of the organization of the Austrian economy. Important speeches by leading members of the institute's staff are reproduced in the *Vorträge und Aufsätze* (Speeches and essays) series. A few examples only are given below. In 1953, 16 major essays were published in the 12 issues of the *Monthly Reports*, on topics including: 'Austria's part in West European export trade', 'The economic significance of the ERP Counterpart Fund' and 'The politico-economic significance of income-tax reform'; two of the five *Supplements to the Monthly Reports* dealt with 'Austria and the European balance of payments problem' and 'Economic aspects of Austrian population development'; while speeches made to a wider audience by the director of the institute on 'Austria's economy in transition from stabilization to expansion' and 'Public and private enterprise in the service of the public weal' were among the papers published in the 'Speeches and Essays' series.

Members of the institute also made a number of speeches in other countries and at international economic congresses. We list here a few of these: in 1953, Dr. Franz Nemschak, the director of the institute, delivered two lectures, at the invitation of the Swiss Institute for Foreign Studies in Zürich, on 'Austria's economy since the end of the war' and 'Austria's economic policy as affected by conflicting principles of organization and political ideologies.' Dr. Lothar Bosse, head of the Statistics and Economic Surveys Department, spoke in 1953, at the twenty-fourth annual meeting of the German Statistical Association at Heidelberg, on 'Random sampling plans for consumption surveys' and, at the meeting of the International Committee for the Study of Economic Methods, in Munich, on 'The system of economic surveys in Austria'.

At the beginning of 1953, the institute introduced a system of economic surveys which had already been tried out in West Germany. The idea is, by questioning a large number of representative business people engaged in production and trade about conditions in their particular fields (production, turnover, orders, stocks, prices and so forth), to obtain a general picture of the present economic position. It is hoped, in this way, to add a new set of up-to-date statistics, giving more information about economic life, to the general body of economic statistics, which naturally provide only global data, with a considerable time-lag, and leave out of account certain important developments. The results are published each month in economic tables, of which 14 at the present time (late 1953) deal with industry, 11 with commerce and 9 with retail trade. In 1953, about 30,000 tables, printed in colour, were sent out.

Much of the institute's work is concerned with the preparation of notes and advice on matters of political economy and of contributions to official government publications. The papers prepared, which are usually confidential, are most often asked for by ministries but may also be requested by other public and private institutions.

Another of the institute's main tasks is the improvement and rationalization of Austrian economic statistics. The institute is not required to get out primary statistics but is much concerned with the systematic organization and co-ordination of statistics prepared by various authorities on different subjects, and with the possibility of using these for economic purposes. The institute is very active in this respect. In 1951, by a decision of the Austrian Cabinet, a Research Centre for Studies in Political Economy was set up. This centre is composed of a department of the Austrian Institute for Economic Research and a department of the Austrian Central Statistical Office. So far, the research centre has brought out four publications, dealing partly with the actual assessment of the national income for past years and partly with theoretical enquiries designed to adapt systems of assessing national income and national accounting, worked out at the international level, to Austrian conditions, and to familiarize the Austrian public with them. The Austrian national budget for 1954 was, for the first time, drawn up by the Federal Ministry of Finance in accordance with recognized criteria for the assessment of national income. The practical side of the research centre's work is concerned with preparations for important official enquiries (survey of production, survey of private household consumption, introduction of building statistics to show the amount of building work being done, etc.).

During 1953, the institute answered some 5,000 enquiries, made by telephone or in writing, from all sectors of economic life. Its library and collection of newspaper cuttings are not only indispensable to its own staff in their work but are also much used by visitors.

OFFICERS:

Honorary President: Dr. Eduard Heinl, ex-Minister, President of the Creditanstalt-Bankverein. Board of Directors: Chairman: Dr. Manfred Mautner Markhof, Industrialist, President of the Industrial Section of the Confederation of Industries; Karl Mantler, Vice-Chairman, ex-Secretary of State, President of the Council for Workers, and Employees, Vienna; Dr. Hans Mayer, Vice-Chairman, Professor of Political Economy, University of Vienna; Nazionalrat Johann Böhm, President of the Austrian Federation of Trade Unions; Kommerzialrat Dr. Josef Kresse, Chairman of the Trade Section of the Confederation of Industries; Dr. Ludwig Grassinger, Director-General of the Schoeller-Bleckmann Stahlwerke Aktiengesellschaft; Dr. Richard Janda, Head of Department in the Federal Ministry of Finance; Dr. Josef Joham, Director-General of the Creditanstalt-Bankverein, President of the Union of Austrian Banks and Bankers; Andreas Korp, ex-Secretary of State, Director-General of the Wholesale Purchasing Union of Austrian Co-operative Societies; Dr. Hans Lauda, Director-General of the Veitscher Magnesitwerke, President of the Austrian Federation of Industrialists; Dr. Eugen Margaretha, ex-Minister, President of the Austrian National Bank; Karl Pröbsting, Engineer, Director, Municipality of Vienna;

Nationalrat Okonomierat Josef Strommer, Chairman of the Conference of Presidents of Austrian Agricultural Councils; Professor Wilhelm Taucher, ex-Minister, Professor of Political Economy, University of Graz. Honorary Members: Dr. Franz Dörfel, Professor at the College of International Commerce, Vienna; Dr. Eugen Lanske, former Head of Department; Dr. Hans Rizzi, Under-Secretary of State, and President of the National Bank, retired; Dr. Georg Zimmermann, Minister, and President of the Central Statistical Office, retired. Directors of the Institute: Franz Nemschak and Ernst John. Co-ordination and Editing: Hans Seidel. Statistics and Economic Surveys: Lothar Bosse. Scientific Advisers: Stefan Koren, Emil Peter, Kurt Rothschild, Josef Steindl. Scientific Experts: Barbara Brandau, Max Hohenecker, Grete Kohlhauser, Walter Kohlhauser, Peter Milford, Peter Schramke, Otto Seidel, Richard Strigl.

ECONOMIC AND SOCIAL DEPARTMENT OF THE INTERNATIONAL CONFEDERATION OF FREE TRADE UNIONS

The main purpose of the Economic and Social Department of the International Confederation of Free Trade Unions is to provide the factual and analytical bases for the decisions of its governing bodies in the field of economic and social problems, as well as to prepare material for representations which the confederation makes to intergovernmental bodies and to governments on matters in which the interests of the workers are involved. In addition, the department prepares studies intended for trade union readers generally, and in particular for research offices in national trade union centres.

The department is composed of two sections—one dealing with mainly economic problems, including the relations with international economic bodies (principally the United Nations Economic and Social Council and its regional and functional commissions), and another with social affairs, including relations with the International Labour Organisation. Apart from research workers, the department has a small number of persons engaged in collecting and classifying the necessary basic material —periodicals, documents, etc., and a steadily expanding reference library.

The reports and studies prepared for the governing bodies of the confederation deal mainly with world and regional problems. The principal examples of statements adopted by the ICFTU, for which the department has done preparatory work, are: the ICFTU's programme for the economically underdeveloped countries, statement on prices, wages and productivity, programme for non-self-governing territories, and statement on full employment. The department has also prepared studies on economic and social conditions in certain regions of the world and in a number of countries to serve as bases for decisions of governing bodies, for the use of ICFTU missions to various countries, and in order to help the regional organizations and offices of the confederation as well as its affiliated organizations to prepare their action on national or international levels, such as submission of complaints to the International Labour Organisation, representations to governments, recommendations on Labour legislation, etc.

Economic and social development in various parts of the world is kept under constant review so as to enable the department to supply appropriate material to representatives to the UN Economic and Social Council, to the ILO, to commissions and committees of these bodies, as well as to other international organizations.

A series of 'study guides'—on economically underdeveloped countries, international migration, 'economic systems in change', workers' participation in the running of industry—has been prepared by the department.

Finally, the department publishes a bi-monthly *Economic and Social Bulletin*, based mainly on material provided by affiliated organizations and deal with economic and social problems facing free trade unions in various countries, and giving international statistical information.

INSTITUTE OF SOCIAL STUDIES

The Hague

In 1950 a Royal Commission was appointed to investigate the possibility of adapting university education and research in the Netherlands to international co-operation. One of the immediate results of this investigation was a recommendation to establish an internationally orientated institute where the social sciences were to be studied at graduate level. It was considered that in the present period of world history the study and understanding of problems of international society, of social change, and of the relations between different cultures and between culture and personality, are of outstanding importance. The need for academic education as a preparation for responsible leadership in administrative and other functions of social service formed another consideration.

The Institute of Social Studies has come into existence as the first institution created by the Netherlands Universities' Foundation for International Co-operation to be established as a result of the Royal Commission's recommendations. The Foundation's Board of Governors, under the chairmanship of H.R.H. the Prince of the Netherlands, is composed of representatives of all universities in the Netherlands, while the management of its day-to-day activities is entrusted to the director, Dr. P. J. A. Idenburg, and staff. The institute, which is housed in the Noordeinde Palace, the former royal residence at the Hague, is under the direction of the rector, Professor J. J. L. Duyvendak, assisted by an academic, administrative and domestic staff. The institute has its own reference library and enjoys all the facilities provided by the Royal Library and the Peace Palace Library at The Hague and by all university libraries in the Netherlands. Though subsidized by the Netherlands Government, the foundation and the institute act as independent organizations, free to adapt their programmes and activities to existing and future needs. In the future the foundation may set up additional institutions for various purposes.

In October 1952 the Institute of Social Studies opened its doors to 25 students from 10 different countries, embarking on its work with an experimental programme of teaching. This programme was implemented by teaching staff drawn from several Dutch universities. Based on vocational education distributed over four main fields, viz., public administration, economics and economic policy, sociology and international relations, and comparative government, this programme was intended to promote insight into the interrelation of the social sciences and the need for their further integration, and also into the specific scientific problems involved in development seen both from practical and theoretical points of view, the same attention being paid to spiritual as to technological and similar aspects. Much attention has also been given to problems of social change.

The experience gained in the first year of the institute's existence made it possible, in the second year, to proceed in the direction of one of the main aims for which the institute has been created, namely research. The existing courses were adapted in certain respects to practical requirements arising from differences which had come to light in the background knowledge of the students, and supplemented by a limited number of advanced research seminars. Some of these seminars dealt with subjects in

one of the main fields indicated above, while others were based upon the co-operation of participants with different backgrounds of training in one of the social sciences. Two limited experiments have been made with methodological problems, and several others with problems of practical development and problems of social, cultural and economic change. Future plans provide for increasing concentration on research projects. For this purpose, the scientific staff of the institute may be augmented by a few research workers, both Dutch and foreign. Is is expected that during the coming academic year two experimental research projects will be carried out by a team in which research staff, members of the teaching staff and a small group of selected students will co-operate. One of these projects will be a study of practical development problems in one of the less priviliged areas of the Netherlands, while the other will be methodological in character. The outcome of these experiments should help to determine a long-range policy of research. It is already clear that this research will, for one thing, deal with development as a central concept of the social sciences. An attempt will be made to establish a working technique in which international team work may overcome the unavoidable limitations of an individual approach, conditioned as this always is by the research worker's own social and cultural environment.

Additional plans are under way, primarily to study the need for documentation materials and to help to meet this need, both nationally and internationally. This will imply a scientific revaluation of the requirements and techniques of documentation needed for an adequate study of development problems.

Apart from this, a beginning will be made in the near future with the publication of a series of studies in development and in the integration of the social sciences; the series will appear irregularly. It will include the results of research at the Institute of Social Studies and any other publications of Dutch research workers or foreign scientists engaged in the Netherlands on studies related to the institute's field of work.

Finally, there are plans for enabling a limited number of selected Dutch research workers to do field work abroad. They will work in areas where the actual situation displays aspects whose detailed study may stimulate international understanding, at the academic level, of development problems in general, and of certain topics in particular. One of these aspects will be the social implications of the introduction of foreign techniques and ideologies. The results of such studies may find their way into the institute's series of publications.

INTERNATIONAL ASSOCIATION OF PENAL LAW ITS AIMS, ACTIVITIES AND CONGRESSES

The International Union of Penal Law, which was founded in 1889 on the initiative of Messrs. Prins, von Liszt and van Hamel, ceased to exist after the 1914 war. The importance of the part played by the union in the modern development of penal science has gained general recognition; it instilled new life into the study of sociology and penal policy, made a useful contribution to the reform movement of the last 35 years, and established friendly co-operation between those concerned, in different countries, with the theoretical study of criminal law or with its application. Its termination, due to the world crisis, left a large gap.

During the first post-war period, a universal awareness arose of the need for international co-operation in the campaign against crime. War conditions had favoured an alarming increase in crime, not only strengthening the virulence of its usual forms but also giving rise to new forms. The lack of material and moral balance which the countries of Europe were experiencing—a normal result of large-scale political

catastrophes—did not encourage respect for law. The intermingling of different nationalities, the presence of an ever larger number of foreigners in several countries, occasioned an increase in international crime. The peace treaties, by altering frontiers and bringing new nations into existence, raised important problems of codification and revision.

Such were the reasons which led jurists—prominent among them Professor Saldana of Madrid University, Professor Roux of the Strasbourg Faculty of Law and Professor Donnedieu de Vabres of the Paris Faculty of Law—to found an International Association of Penal Law to continue the work of the International Union.

The association was founded in 1924, at the Paris Faculty of Law, and immediately received valuable support from a large number of jurists outside France. Among these mention should be made of Comte Carton de Wiart, Minister of State and formerly Prime Minister of Belgium, Mr. Jaspar, a member of the Belgian Government, Mr. Benes, President of the Czechoslovak Republic, Mr. d'Amelio, First President of the Italian Supreme Court of Appeal, Mr. Nowoworski, First President of the Higher Court at Warsaw, Mr. André Mercier, Rector of Lausanne University, Professor V. V. Pella of Bucharest University, Mr. Rappaport (Poland), Mr. Torp (Danmark), Mr. Beleza dos Santos (Portugal)—not forgetting the illustrious names of Enrico Ferri and Garofalo.

The International Association of Penal Law has no political aims. Its chief purposes are to promote friendship and co-operation between those who in different countries devote themselves to the theoretical study of criminal law or who participate in its application; to study crime and its causes as well as methods of combating it; and to contribute to the theoretical and practical development of international penal law in order to achieve a universal penal law.

In 1939, on the eve of the second world war, the International Association of Penal Law, with its numerous affiliated national groups and individual members, was in the first rank of associations concerned with crime and punishment.

In the period between the two wars its scientific work took several forms:

1. The publication of the *Revue internationale de droit pénal*, which provides a wealth of information for people who for any reason are interested in penal law, criminal procedure and the regulations governing penitentiaries.
2. The organization of international congresses on penal law, held in Brussels in 1926, Bucharest in 1929, Palermo in 1933 and Paris in 1937.
3. The publication in French of a Collection of Penal Codes, providing new reference material for legislators and criminal jurists. This collection comprised a translation of the Polish, Danish and Rumanian penal codes and of the important Belgian Act of 3 January 1935 relating to the manufacture of and trade in arms.

Meanwhile, the International Association of Penal Law had been recognized by the League of Nations as one of the six international associations that were to assist in the study of problems submitted to the league on legislation relating to crime and punishment. Two reports which caused a great stir—one on basic rules for the treatment of prisoners, and the other on the means of preventing the coercion of witnesses and accused—testify to the part played by the association in this work.

It also carried out the preparatory work for the elaboration of an international criminal jurisdiction aimed at the preservation of peace.

In 1946 the association resumed its work, which it had voluntarily suspended during the five years of the second world war, taking it up again with great vigour because the reasons that had led to its foundation in 1924 were once more to the fore and even more imperative in this new post-war period.

The association altered its statutes, having regard to the factors that, before the war, had helped it to achieve its primary purpose—to establish close co-operation between criminal jurists in all countries.

When a preliminary draft convention for the prevention and repression of genocide was to be drawn up, the Secretary-General of the United Nations called upon three members of the association—its president, Professor V. V. Pella, one of its vice-presidents, Professor Donnedieu de Vabres, and one of its staunchest

members, Professor Lemkin, to whom, incidentally, we owe the term 'genocide'.

In collaboration with the jurists belonging to the United Nations secretariat, Mr. Humphrey and Mr. Giraud, these three experts drew up the preliminary draft of June 1947.

In 1951 and 1952 the International Association of Penal Law co-operated in an advisory capacity with the United Nations, particularly in connexion with the prevention of delinquency and the preparation of various conventions. It also helped in the work of the Statistical Commission, Social Commission, Commission on Narcotic Drugs and Commission on Human Rights.

Representatives of the association attended the Conference on Migration (two sessions of which were held in Geneva and one in New York) and the meeting of the Commission on the Status of Women held in Geneva in May 1952.

In addition, Professor Pella, President of the Association, in August 1951 presented a report to the committee responsible for drafting a statute of international criminal jurisdiction.

The association was represented at the conference of non-governmental organizations having consultative status with Ecosoc, held in New York in 1952, on the committee to study the legal status of non-governmental organizations (Geneva 1951 and 1952), and on the bureau of the conference of international non-governmental organizations.

With regard to relations with other international bodies, in 1951 the association co-operated with the International Labour Office in drafting a multilateral convention on migration. It has excellent relations with other associations, such as the International Society of Criminology, the Nordisk Association of Criminalists and the International Bar Association. It attended the congress held by the last-named association (Madrid, July 1952) and the congress of the International Law Association (Lucerne, 1952) as well as various congresses held by the International Criminal Police Commission.

Among the association's other activities should be mentioned the quarterly publication of the *Revue internationale de droit pénal*. A special number of this periodical, issued to mark the centenary of von Liszt, was devoted to the International Union of Penal Law and its founders.

The association has organized annual discussions between criminal jurists from France, Belgium and Luxembourg. The first discussion was held in Paris in November 1951 and attended by 100 criminal jurists; it took as its subjects failure to assist persons in danger and the role of the judge in the execution of sentences. The theme of the second discussion, which took place in Brussels in May 1953, was the possibility of repressing abortion. The third, to be held in Luxembourg in June 1954, will take rehabilitation for its subject.

The association held its Fifth International Congress in Geneva from 28 to 31 July 1947. This meeting, which was excellently organized by Professor J. Graven of the Geneva Faculty of Law, secretary-general of the congress, was extremely successful. It was presided over by Professor V. Pella, president of the association. There were more than 200 participants, from all countries.

The two following questions were considered: 'How can one state, through its internal legislation, help to maintain peace in another state?', and 'The principles of the legality and desirability of initiating criminal proceedings'. These questions were the subject of two brilliant reports of a general nature, presented respectively by Professor Donnedieu de Vabres of the Paris Faculty of Law, and Professor F. Clerc, Dean of the Faculty of Law at Neuchâtel.

The International Association of Penal Law held its Sixth Congress in Rome from 27 September to 3 October 1952, when the presence of representatives of 34 nations and the increasingly international character of the association showed the world-wide interest aroused by the problems of penal law included in the agenda.

Arrangements for this congress were entrusted to the Italian national group. Thanks to the untiring efforts of Mr. Giovanni Persico, president of the congress, Mr. Carlo Erra, secretary-general of the organizing committee, and their assistants, the organization of the congress was faultless.

The question on the agenda of the first section was the safeguarding of international

humanitarian conventions by criminal legislation. The discussion was opened by comments from Professor Jean Graven, Judge of Appeal at the Geneva Court. Mr. Claude Pilloud, barrister, Head of the Legal Division of the International Committee of the Red Cross in Geneva, acted as rapporteur-general.

The second section studied the question of the protection of individual liberty during judicial enquiries. Mr. Graven was chairman of the section, and Mr. Braas rapporteur-general. Mr. Graven pointed out that the question should be dealt with under three heads, which were discussed in succession: the problems raised by the status, operation and powers of the police; the organization of procedure before examining magistrates; rules for preventive detention and compensation for injury due to wrongful arrest.

The subject examined by the third section was economic penal law. After giving a brief account of the problem and outlining the rapid strides made by economic penal law in modern society, as well as the lines along which it was likely to develop in the future, the chairman, Mr. Ancel, Judge at the French Supreme Court of Appeal, asked the rapporteur-general, Mr. Vrij, Judge at the Netherlands Supreme Court of Appeal, to speak.

The following resolution was adopted in plenary session:

'The Sixth Congress of the International Association of Penal Law . . . is of opinion that legislators should familiarize themselves with the different systems and that international co-operation, which is essential in the economic field, demands a complete and rapid understanding of those systems.'

The fourth section had on its agenda a particularly delicate question—the unification of penalties and safeguarding measures.

On the proposal of Mr. Ernesto Eula, Attorney-General at the Italian Supreme Court of Appeal, the following conclusions were adopted:

'Whereas the introduction into penal laws of safeguarding measures in addition to penalties marks a step forward, from the point of view both of overcoming the disagreement between different schools and of obtaining better results in the re-education of delinquents and the prevention of backsliding;

'This congress nevertheless considers that the system adopted in certain legislations of successively applying, to the same person, penalties and safeguarding measures, may present disadvantages, particularly in the case of certain persons, from both the theoretical and the practical points of view;

'And further considers that, in practice, the problem of unifying penalties and safeguarding measures only arises in connexion with particular classes of delinquents who need "special" treatment. For this reason it is unnecessary to take a definite stand on the general theoretical question of punishment, particularly where normal delinquents are concerned; it is thus possible to reach a practical solution which will bring the holders of diverse opinions into agreement on this point.

'In particular, the congress thinks it may justifiably assert that: (a) For persons under 16 years of age, there should be no punishment involving death, personal restraint or penal servitude; (b) For half-insane persons, it would be preferable not to adopt a special rule. In the event of this recommendation not being accepted by legislations, such persons should in any case be subjected only to the treatment required by their mental state.'

On the last day of the congress, members had the signal honour of being received by Pope Pius XII at his summer residence at Castelgandolfo. In the course of an address combining lofty thought with scienfic exactness, the Pope enlarged upon some of the principles underlying the aims and resolutions of the congress. After referring to the importance of international penal law, he went on to analyse the foundations of penal law, which presuppose a number of imperatives based on ontological conceptions and must start from the fact of man's existence as a separate and free personality. The unanimous applause of those present conveyed their appreciation of the ideas developed with such authority and clarity by the head of the Catholic Church.

Before taking their leave, the congress met in plenary session, chiefly for the purpose of electing the members of the council and the executive committee of the International Association of Penal Law.

The following were elected as a result of the vote:

Council: Messrs. Ancel (France), Beleza dos Santos (Portugal), Bouzat (France), Cornil (Belgium), De Cant (Belgium), Erra (Italy), Carrido (Mexico), Givanovitch (Yugoslavia), Graven (Switzerland), Herzog (France), Hurwits (Denmark), Jimenez de Asua (Cuba), Koni (Turkey), Maxwell Fyfe (United Kingdom), Mezger (German Federal Republic), Nelson Hungria (Brazil), Persico (Italy), Radzinowicz (United Kingdom), Rappaport (Poland), Sellin (United States of America), Solnar (Czechoslovakia), Strahl (Sweden), Vrij (Netherlands), Yotis (Greece).

Executive Committee: President: Mr. Paul Cornil; Vice-Presidents: Messrs. Rappaport, Maxwell Fyfe, Graven, Vrij, Ancel, Jimenez de Asua, Persico; Secretary-General: Mr. Bouzat; Treasurer: Mr. Herzog; Assistant Secretary-General: Mr. De Cant.

Immediately after the elections, the president, Mr. Cornil, addressed the assembly, which, at his suggestion, expressed the wish that the next congress of the International Association of Penal Law should be held in 1957. It will probably be held in Athens.

II. REVIEW OF DOCUMENTS, PERIODICALS AND BOOKS

DOCUMENTS AND PUBLICATIONS OF THE UNITED NATIONS AND THE SPECIALIZED AGENCIES[1]

UNITED NATIONS

GENERAL

Yearbook on Human Rights for 1951. 1953, 652 p., printed. 1953.XIV.2.
[Sc. Org.][2] Sixth of the series, covering the year 1951. A detailed handbook of national and international legal texts and instruments (including those concerning non-self-governing territories) relating in any way to human rights and the work done by the United Nations and the Specialized Agencies in that connexion. Questions dealt with: elaboration and implementation of the Universal Declaration, economic and social rights, freedom of information and association, status of women, minorities, forced labour and slavery, refugees, prisoners, trust territories, non-self-governing territories, petitions and communications, International Court of Justice, etc. Complete bibliography. Index.

GENERAL ASSEMBLY

Index to proceedings of the General Assembly. 1953, 2 vols., printed. ST/LIB/SER.B/A.3 148 p., $1.50; ST/LIB/SER.B/A.3/Add.1 8 p., $ .10.
[Org.] This index to the proceedings of the Seventh Session of the General Assembly is the bibliographical guide to the documentation and work of the assembly.

Report of the United Nations Commission on the Racial Situation in the Union of South Africa. 1954, 180 p., printed, $2. A/2505 and A/2505Add.1.
[Sc. Ej. Org.] The commission which drew up this report consisted of three independent members—Messrs. Dantès Bellegarde (Haiti), Henri Laugier (France) and Hernan Santa Cruz (Chile). The commission was unable either to secure the co-operation of the Government of the Union of South Africa or to proceed to that country. Its report is therefore based mainly on documents and the evidence of witnesses. It deals in succession with the following subjects: competence of the commission and the United Nations in the matter; geographical, historical, demographic, economic and social factors in apartheid; analysis of the policy of apartheid in its several aspects (legal basis, attitudes and behaviour in practice); 'defiance of unjust laws' in 1952; conclusions. On the strength of this report, the Eighth Session of the General Assembly reaffirmed the need to seek means of improving the racial situation in South Africa and asked the commission to continue its work. Maps. Bibliography.

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[1] As a general rule, no mention is made of publications and documents the issue of which is more or less automatic—regular administrative reports, reports of meetings, etc. Free translations have been given of the titles of some publications and documents which we were unable to obtain in time in English.
[2] For explanation of abbreviations, see pp. 140-1.

ECONOMIC AND SOCIAL COUNCIL

TRADE

Commodity Trade and Economic Development. 102 p., printed, $ .75. E/2519.
[Sc. Ej.] Report of a group of experts nominated by the secretary-general. Brings out the economic interdependence of the underdeveloped and the more advanced countries, and the complementary nature of their commercial interests. The report reviews various measures designed to meet, the general problem of monetary or commercial instability and ranging from action in respect of a single product only to measures co-ordinated at the international level. Methodological notes.

STATISTICS

[Sc. St. Dp. Pr. Org.] A series of brief studies (in most cases running to a few pages only) was published for the Eighth Session of the Statistical Commission (5-24 April 1954). The reference number of the session's agenda is E/CN.3/164 and it is discussed in note E/CN.3/L.30, which gives a summary of the session's documentation.

Particular attention is drawn to the following documents:

Statistics of Capital Formation. E/CN.3/165. Progress report on the work of the United Nations in this connexion. Bibliography.

Progress Report on National Accounts. E/CN.3/166. Progress report on the work of the United Nations in regard to national accounts, national income, etc.

International Standard Classification of Occupations. E/CN.3/167. List of the main categories suggested; present state of the question.

Industrial Activities of Households. E/CN.3/168. Progress report on the work done by the United Nations on the statistical methods applicable to the industrial activities of households, and brief account of surveys carried out by the sampling method in Burma and India, where such activities account for a high proportion of total output.

Statistics of Enterprises. E/CN.3/169. Progress report on work carried out by the United Nations; outline of procedures in current use in the various countries (with table of the categories of data recorded); significance of statistics of enterprises.

External Trade: Transaction Value. E/CN.3/172. Replies by 38 countries on their current statistical practice and their intentions as regards the standardization of statistical data on the transaction value of exports and imports.

External Trade Statistics. E/CN.3/173. Progress report on exchanges of views with member states, undertaken at the commission's request, with the aim of securing the gradual standardization of trade statistics in accordance with international rules.

The Customs Areas of the World. E/CN.3/174. Present position in the United Nations with regard to the definition of the customs areas (which are also statistical areas) of the world, and provisional list of the definitions supplied by states in respect of the territories coming under the supervision of their customs services.

Statistics of Individual Industries. E/CN.3/176. Present position of this question in the United Nations and specimens of statistics of industrial output, stocks, consumption and external trade, compiled in respect of individual industries (e.g. fuel and power in Australia, iron and steel in the United Kingdom).

Survey of Methods used in the Construction of Price and Quantity Indexes. E/CN.3/177. Progress report on the work done by the United Nations on indexes to show the several elements in national output and expenditure in terms of a constant price norm; recent publications on the subject; brief review of the methods used by the different countries in the construction of permanent indexes.

Statistics of Income Distribution. E/CN.3/184. Progress report on the work and publications of the United Nations on income distribution as shown in national accounts, and outline of the methods used in that connexion by the different countries.

Improving the International Comparability of Statistics on Illiteracy and Education. E/CN.3/188. Document compiled by Unesco. Present position. Recommendations of an expert committee on the definition, method of evaluation, classifications and tables most

suitable for statistics on illiteracy and education. Changes suggested by the Unesco Secretariat in the light of the remarks of member states and of its own experience in this field.

Statistical Study of Performance of Transport Systems with a view to Quality Control. 1953, 5 p. E/CN.11/TRANS/98.

Note by the Indian Government on the general function of statistics in industry as a whole and more particularly in the case of transport, with an outline of the organization of such statistics for the Indian railways (punctuality, tons per mile, consumption, repairs, etc.).

NATIONAL INCOME

A National Accounting System for Use by ECAFE Countries. 1953, 9 p. E/CN.11/STAT/Conf.3/2.

[Sc. Pr.] Document prepared for the Third Regional Conference of Statisticians, jointly organized by the Economic Commission for Asia and the Far East and the Statistical Office of the United Nations (March 1954). Main subject of the conference: Calculation and analysis of national income. The above document is a progress report on the work done by the United Nations in regard to national accounting, with special reference to underdeveloped countries. It describes more particularly the principles of a simplified system consonant with the fundamental mechanisms of modern national income statistics, but suitable for immediate introduction in countries statistically backward.

The introduction of this system accordingly offers the twofold advantage of yielding significant data forthwith and of paving the way for a national accounting system of the advanced type.

Measurement of Income originating in Agriculture. E/CN.11/STAT/Conf.3/3.

[Sc. Pr.] This document was also prepared for the Regional Conference of Statisticians, referred to above. The United Nations is at present compiling a manual on the method to be employed in presenting figures of national income, following guiding principles which were set forth in a publication issued in 1952 (ST/STAT/SER.F/2). The present document is the draft of one of the parts of the proposed manual, dealing with the statistical expression of agricultural activities and the evaluation of receipts from agriculture. Bibliography.

PLANNING, MORE PARTICULARLY IN ASIA

Techniques of Material Resources Budgeting. 1953, 99 p. E/CN.11/1 and T. 97.

[Sc. Pr. Ej.] Economic development plans, more particularly in the case of the countries of Asia and the Far East, have hitherto been focused, in the main, on the calculation of the capital necessary to carry them out. Assessment of the physical resources (raw materials, power, victuals, machinery, etc.) which it should be possible to reckon on, is not less important. This report brings out the general significance of this category of statistics in the context of economic and social planning, describes the techniques already employed in the matter, formulates principles and illustrates the application of these by examples drawn principally from the countries of Asia and the Far East.

ECONOMIC COMMISSION FOR EUROPE

Present and Future Activities of the Economic Commission for Europe

[Org.] The activities of ECE and its organs in 1953—programme trends and execution of programmes, meetings, investigations, publications, external relations—are set out in documents E/ECE/177 and E/ECE/178 of 20 January 1954.

The commission's provisional programme for 1954-55 is contained in document E/ECE/182 of 20 January.

ECONOMIC SITUATION IN EUROPE

Economic Survey of Europe in 1953. February 1954, 314 p., printed, $2.50.
[Sc. St. Dp. Ej.] The customary study of social and economic developments in Europe during the past year, one of recovery for the majority of countries by comparison with 1952. Special chapters on the factors determining this trend in Western Europe (detailed analysis of four cases—German Federal Republic, Netherlands, Sweden, United Kingdom), on the U.S.S.R. and on the people's democracies. A large part of the survey is devoted to the economic advance of the countries of Southern Europe —Greece, Southern Italy, Portugal, Spain, Turkey and Yugoslavia. Numerous statistics. Bibliography.

STATUS OF WOMEN

[Org. Dp. St. Ej.] At its Eighth Session (March 1954) the Commission on the Status of Women had before it a number of succinct documentary notes, of which the following should be mentioned:

Right of Married Women to Engage in Independent Work. E/CN.6/228. Brief comparative study of the legal provisions concerning women's right to engage in work in various countries where that right is to some extent subject to the permission of the husband.

Domicile and Residence of Married Women. E/CN.6/229. A comparative study of some national legislation on the point. The question of the domicile of married women is dealt with from the point of view of measures discriminating against women which may be found in legal codes. Definition of the legal concepts of domicile and residence of married women.

Parental Rights and Duties. E/CN.6/230. Comparative study of laws on the relations between parents and children, based on information provided by a number of governments. Differences between the rights and duties of father and mother respectively under various legal systems.

Documentation of the Social Commission relating to the Protection of Mother and Child. E/CN.6/232. List of documents prepared by the Secretariat for the Social Commission relating to the protection of mother and child.

Matrimonial Régimes. E/CN.6/233. Study of various types of matrimonial régime, from those in which the rights of the wife are the most limited to those under which there is practically no difference between the rights of the husband and those of the wife.

Information concerning the Status of Women in Trust Territories. E/CN.6/235. A brief account of the political and social status of women in a number of trust territories in Africa and Oceania.

Part-time Work for Women, E/CN.6/236; *Part-time Employment*, E/CN.6/238. Document E/CN.6/236 is a report by the secretary-general, in four parts: (a) discussion and definition of what constitutes part-time work; (b) outline of the position regarding part-time work in the following countries: Australia, Belgium, Canada, Finland, Italy, Netherlands, New Zealand, Southern Rhodesia, Sweden, Switzerland, Union of South Africa, United States of America; (c) advantages and drawbacks of part-time work for women, from the point of view of the part-time workers themselves, of other workers, of trade unions, of employers, of the community, and of the general position of women; (d) recommendations.

Document E/CN.6/238 is a report by the International Labour Office giving a general review of the situation and of the problems arising.

Information concerning the Status of Women in Non-self-governing Territories. E/CN.6/237. Account of the position of women in private and public life, and at law, in Morocco, Tunisia, Mauritius, Uganda, Oceania and the Hawaiian group.

Development of Political Rights of Women in Territories where these Rights are not fully enjoyed. E/CN.6/239. Note by the secretary-general reviewing the progress made in regard to this question in the United Nations: a resolution of the Economic and Social

Council asks governments to adopt the necessary measures, more particularly legislative and educational, to promote increased recognition of the political rights of women in all territories.

MATERNAL AND INFANT HEALTH SERVICES

WHO/Unicef Assistance. Maternal and child health programmes in 15 countries. Progress report submitted by the Director-General of WHO. 1953, 83 p. E/IGEF/235. [Pr. Org. Ej. Dp. St.] Unicef and WHO are at present co-operating in the execution of maternal and child health programmes in 42 countries. Succinct description of the programme as a whole; progress made; special attention is given to projects comprising demonstration or professional training programmes, for the execution of which WHO has supplied staff recruited internationally. Statistics.

PRESS, RADIO AND FILMS

Freedom of Information. Encouragement and Development of Independent Domestic Information Enterprises. 14 January 1954, 74 p. E/2534.
[Pr.] Joint report by the United Nations and Unesco, aimed at working out some practical methods of promoting the growth of independent press, radio and film (documentary, educational and news) agencies and services, especially in the underdeveloped regions. Nature of the various problems to be taken into account. Outline of a programme comprising governmental and international measures, particularly in the social and economic development and technical assistance categories, action calculated to increase paper production and the circulation of persons, news and material, co-operation in the organization and development of national agencies and services, research and exchange of documentation, professional training, etc. Procedure for the gradual creation of national cultural and news-film industries in countries without experience in this field and without qualified personnel, with pointers on the financial resources, material and organization necessary. Similar information on the operation of a standard service responsible for the procurement of films, filmstrips, etc. and for arrangements for their screening. Bibliography.

TRUSTEESHIP COUNCIL

NON-SELF-GOVERNING TERRITORIES

Mission from the Trusteeship Council to the Pacific in 1953.

[Org. Ej.] At the beginning of 1953, a mission was sent to the four Pacific trust territories. Notices of its preliminary reports were given in an earlier number. These documents have since been issued in printed form, with the resolution adopted in connexion with them by the Twelfth Session of the Trusteeship Council. The reports are on Nauru (T/1076, 15 p. $ .20), the Pacific Islands (T/1077, 31 p. $ .25), New Guinea (T/1078, 35 p. $ .30) and Western Samoa (T/1079, 19 p. $ .25). Also given are the terms of reference of the mission, an analysis of political, economic, social and educational progress, local opinions, and the views of the mission. Maps.

SECRETARIAT

DEMOGRAPHY

The Determinants and Consequences of Population Trends. A summary of the findings of studies on the relationships between population changes and economic and social conditions. 1954, 404 p., printed, $4. ST/SOA/SER.A/17.

[Sc. Ej. Dp. St.] For some years past, the United Nations has been preparing studies exhibiting the main conclusions reached by modern science on the description and explanation of the interaction of population changes and social and economic conditions. Preliminary reports have already been published. The volume under review assembles in final form all the documentation thus collected—prehistory and history of world population, evolution of theories on population, factors determining demographic trends (geographical, economic, cultural and social factors; the factors of mortality, fertility, migrations and population structure and distribution); age-group structure, mortality rates, fertility and migrations; future prospects; socio-economic effects of changes in the demographic structure (world population, resources, labour, consumption, national output per head; case of industrialized and under-developed countries respectively; main effects of migration in our age). Index. Maps, tables. Bibliography. The whole forms a compendium of and a very complete guide to present-day knowledge on population.

The Population of Ruanda-Urundi (*Population Studies*, no. 15), 1953, printed. ST/SOA/SER.A/15.
[Sc. Ej. St.] Digest of the present state of knowledge regarding population trends in Ruanda-Urundi, as such and in relation to the country's economic resources. Maps. Bibliography.

MIGRATION

International Research on Migration, 1953, 33 p., printed, $ .30. ST.SOA/18, 1953. XIII. 11.
[Sc. Org. Pr.] Comprehensive outline of the work—research, analysis, documentation, etc.—undertaken by the United Nations, ILO, Unesco, International Bank, FAO and WHO on migrations, in the widest sense of the term (demographic, economic, social, legal, health and other aspects of all displacements of population, cultural assimilation, financing, etc.). Brief account of the activities mentioned. Full bibliography. Period covered: 1946 to beginning of 1953.

STATISTICS

Statistical Notes. 15 October 1953, 22 p. ST/STAT/SER.B/16.
[Sc. Pr. Org.] These 'notes' are issued at more or less regular intervals by the United Nations for the information of specialists: international meetings of statisticians (recent and projected), statistical work in the United Nations and Specialized Agencies and in various countries. Publications.

Yearbook of International Trade Statistics, 1952. August 1953, 384 p., printed, $4. ST/STAT/SER.G/3.
[Sc. St. Dp.] Third edition of the *United Nations Yearbook of International Trade Statistics*. Detailed statistics for 70 countries (against 52 in the preceding edition), covering approximately 97 per cent of world trade.

Study in Methods: Industrial Censuses and Related Enquiries. October 1953, 384 p., printed. $5. ST/STAT/SER.F/4, vol. I.
[Sc. Pr.] Study of the methods used for statistical enquiries designed to supply periodical data on the functioning and characteristics of industries, with examples. The first part contains recommendations by the Statistical Commission of the Economic and Social Council on the aims of such enquiries: type of data to be secured and their definitions, type of activities to be examined and frequency of censuses. The second part deals with the case of little-industrialized and underdeveloped countries.

The study is designed primarily for governments; its aim is to help them to bring their industrial enquiries into line with international norms and to encourage little-industrialized countries to initiate programmes of research in this field.

A second volume is to appear shortly. It is to include statistical tables and methodological appendixes. Bibliography.

International Migration Statistics. September 1954, 24 p., printed, $ .25. ST/STAT SER.M/20.

[Sc. Pr.] A study of method, produced with the object of improving national statistics on migrations and securing a higher degree of comparability. The first part of the study deals with the problems posed by the assembly and analysis of data, more particularly from the point of view of co-ordinating the research undertaken in different countries. Chapter 2 contains the recommendations of the Economic and Social Council for the improvement of international migration statistics. The final part contains information on the use of sampling for the assembly of data. A selected bibliography of the subject is included as an appendix.

COST OF LIVING

Retail Price Comparisons for International Salary Determination. December 1953, 35 p., printed, $ .30. ST/STAT/SER.M/14/Add.1.

[Sc. St. Dp. Ej.] Analysis of the cost of living in various regions, to facilitate the establishment of equivalent salaries for international officials. Continuation of the first part issued in 1952 and reviewed in an earlier number. The cost of living index is calculated from the prices of some hundred types of product and service. Towns considered: New York, San José, Cairo, Paris, Rome, Mexico City, The Hague, Geneva, London, Buenos Aires, Sydney, Vienna, Brussels, Rio de Janeiro, Santiago, Copenhagen, Brazzaville, Athens, Guatemala, New Delhi, Lima, Manila, Bangkok.

CAPITAL

Mobilization of Domestic Capital. Report and documents of the Second Working Party of Experts set up by ECAFE, 1953, Bangkok, 334 p., printed, $2.50. 1953.II.F.4.

[Sc. Ej. Pr. Dp. St.] A series of very full studies relating to the following matters: measures adopted to promote the mobilization of domestic capital in the countries of the region; financing of industry and agriculture; role of the bodies responsible for securing economic development; relationship between foreign and domestic capital. Numerous monographs and descriptions of specific cases.

Concepts and Definitions of Capital Formation. July 1953, 20 p., printed, $ .25. ST/STAT/SER.F/3.

[Sc. Pr.] Annotated glossary of definitions of terms and standards of classification applicable to the study of capital formation. Compiled for the use of governments and international institutions to facilitate the general adoption of a single terminology in this sector. Appendix: bibliography on the subject.

ASIAN-EUROPEAN TRADE

A Study of Trade between Asia and Europe. 153, 146 p., printed, $1.50. E/CN.11/373 1953.II.E3.

[Sc. Ej. St. Dp.] Although about a third of the total foreign trade of Asia and the Far East is with Europe, this amount does not represent even one-tenth of Europe's extra-European trade. The trade between the two areas needs to be increased and brought into better balance.

The study under review gives a detailed examination of the question, based on a minute analysis of the present pattern of exchanges. Numerous statistics.

COMMUNITY DEVELOPMENT AND SOCIAL CENTRES

Report of the Mission on Community Organization and Development in selected Arab Countries of the Middle East. November 1953, 60 p., printed, $ .60. ST/SOA/SER.O/9.

[Pr. Ej. Dp.] Report of a team of experts commissioned by the secretary-general to observe and study community development in Lebanon, Egypt, Iraq and Syria. An account of the objectives and scope of community development programmes, of the methods used, of the successes achieved and the difficulties met with. The mission's recommendations on future international action in this sphere. A number of specific cases are described in appendices.

Report of the Mission on Community Organization and Development in South and South-East Asia. December 1953, 167 p., printed, $2.50. ST/SOA/SER.O/10.
[Pr. Ej. Dp.] Report similar to the foregoing, but dealing with community development programmes and social centres in Ceylon, India, the Philippines and Thailand—organization and execution, economic and social aspects of national programmes, the role of voluntary organizations, rural development, recommendations.

Itcly. (Country monographs.) 1953, 22 p., printed, $ .25. ST/SOA/SER.O/11.
[Pr. Ej.] This booklet is one of a series providing information on social centres in various countries. It gives an account of the aims and operation of the Italian institutions so classifiable—social centres of the UNRRA-CASAS 'Community' movement, of the National Anti-Illiteracy Union, of the National Workers' Aid Organization, and miscellaneous services attached to social welfare bodies.

Ceylon. (Country monographs.) 1953, 34 p., printed, $ .25. ST/SOA/SER.O/15.
[Pr. Ej.] A booklet similar to the foregoing. General outline of the social centre programme in this country, description of particular programmes—rural development, fundamental education, women's organizations, etc. Bibliography.

Australia. (Country monographs.) 33 p., printed, $ .30. ST/SOA/SER.O/16.
[Pr. Ej.] A booklet in the same series. Historical outline of the development of social centres, post-war achievements, description of selected examples, bibliography.

SOCIAL WELFARE, SOCIAL QUESTIONS (BIBLIOGRAPHIES)

[Pr. Sc.] The secretariat publishes a series entitled *Social Welfare Information Series. Current National Literature and Conferences,* under the general reference number ST/SOA/SER.F. Each ordinary number in the series covers six months and relates to a specific country, providing detailed references with regard to the publications of social interest issued there during the period and the conferences and principal meetings arranged. The bibliographical items are very varied, ranging from living conditions in general to the most specialized aspects of social security and social welfare, etc. Covers some 30 countries.

POLITICAL, ECONOMIC AND SOCIAL ASPECTS OF THE DEVELOPMENT OF ATOMIC ENERGY (BIBLIOGRAPHY)

An International Bibliography on Atomic Energy. Vol. 1: Political, economic and social aspects. Supplement no. 2, 1953, 31 p., printed, $ .30. AEC/INF/7/Rev.2/Add.2.
[Sc.] In 1949 the secretariat published an initial bibliography on the political, economic and moral aspects of the development of atomic energy, followed by a first supplement in 1950. The present second supplement covers the period July 1950-December 1952. It contains 394 references to official texts and books and articles from various sources on the international control of atomic energy, its development in different countries, its use for peaceful ends, the principal military and technical problems arising in connexion with it, and its strictly economic, social, political and moral implications. Lists of other bibliographies covering the same subjects. Index.

NON-SELF-GOVERNING TERRITORIES

Special Study on Social Conditions. Non-self-governing Territories. 1953, 270 p., printed, $2. ST/TRI/SER.A/7/Add.2.
[Sc. St. Dp. Ej.] Study, based on data collected in 1952 throughout the non-self-governing territories, of interracial relations, standards of living, public health, family allowances, workers' housing, working conditions, and social problems in urban centres and agricultural regions. Statistics.

ISRAEL

Report on Training of the Civil Service of Israel. 28 August 1953, 36 p., printed, $ .30. ST/TAA/M5.
[Pr. Ej.] Prepared for the Government of Israel by Dr. O. E. Ault of the Canadian Civil Service, an expert appointed by the Technical Assistance Administration of the United Nations.
The author first examines the needs of the civil service of Israel and the types of training required, and then goes on to describe the training centres now in existence. Thereafter he considers how far improvement of the training of civil servants can contribute to resolving the problems of public administration.

ADOPTION OF CHILDREN

Study on Adoption of Children. 16 September 1953, 104 p., printed, $ .75. ST/SOA/17.
[Sc. Ej. Dp. Pr.] A detailed study, based on the experience of a large number of countries in Europe, North America and Latin America, dealing with the social, psychological and legal problems arising in connexion with the adoption of children. Review of the conditions in which adoption can give the child deprived of its parents a genuine family life. The appendixes contain a bibliography on the subject and a specimen of the questionnaire sent to the governments consulted.

HANDICAPPED PERSONS

Rehabilitation of the Handicapped. Special issue, 1953, 85 p., printed. ST/SOA/SER. F/11:2.
[Org. Pr.] Co-ordinated international programme for the prevention and treatment of disablement, drawn up by an expert working party from the United Nations and Specialized Agencies in conjunction with non-governmental organizations. The booklet includes a bibliography of 156 publications and a list of 74 films relating to the subject.

THE INTERNATIONAL COURT OF JUSTICE, THE LEGAL DEPARTMENT OF THE UNITED NATIONS

International Court of Justice. Yearbook 1952-1953. 1953, 255 p., printed.
[Org.] Covers the period 15 July 1952-15 July 1953. Composition and activities of the Court, jurisdiction, sessions, decisions and publications, finances.

SPECIALIZED AGENCIES

INTERNATIONAL LABOUR ORGANISATION[1]

ABORIGINAL POPULATIONS

Indigenous Peoples, Living and Working Conditions of Aboriginal Populations in Independent Countries. 1953, 628 p., printed, $4.

[Sc. Ej. Dp. Pr. Org. St.] This important work records the present state of our knowledge about aboriginal population in independent countries and current trends in economic, social and political practice in respect of them. By aboriginal populations are meant those groups which have not become assimilated to the life of the groups dominant in the country concerned. Their way of life and status vary greatly according to region, but taking them as a whole certain common features are distinguishable—geographical isolation, cultural barriers, marked economic backwardness, idea of community life founded on myths, survival of tribal forms of social organization, etc. In 1951, ILO propounded the main lines of intensified international action to promote the better integration of these populations within the life of their countriesand to bring about an improvement in their living conditions.

A joint UN-ILO-Unesco-FAO-WHO mission went to work in the Andes in conjunction with the Organization of American States, and gave substance, in the form of a concrete plan, to the general programme suggested by ILO. The work under review affords an extremely full internationally comparative picture of the material factors of the problems to be solved, of the objectives to be reached and of the programmes, both national and international, required for their attainment.

Main chapter heads: definition of the aboriginal, demographic and geographical data, food, housing, health, education, labour, land tenure system, economy, economic and social policy of governments, international action (past history and present position). The case of each known aboriginal community of the Americas, Asia and Australia is considered under these main heads, in the light of legislation, administrative practice and the actual facts established by the investigations of official departments and independent research. Statistics, numerous illustrations, maps. Extensive biliography of official sources, ethnographical works, etc.

LABOUR LEGISLATION

The Effective Application of International Labour Standards, by Ernest A. Landy. 1953, 19 p., printed, $ .15.

[Ej. Dp. Org.] The work traditionally carried out by ILO in connexion with legislation, supplemented by research and extensive action in the field of technical assistance, has further increased since 1946. Some two hundred international instruments laying down labour standards are now embodied in the International Labour Code built up by ILO since 1919. The measures taken by the various states to apply these standards are subject to regular official inspection by ILO. The present booklet gives a brief account of the chief results noted over the past 10 years.

Vocational Rehabilitation of the Disabled. 1954, 134 p., printed, $ .75. Report IV(2).

[Pr. Sc.] In accordance with its practice, ILO has published reports on several draft international instruments, consideration of which is included in the agenda of the annual International Labour Conference (Thirty-seventh Session, June 1954). The reports in question are based on the replies by governments to a preliminary draft. These replies are given in full, analysed, commented upon, and followed by a draft in final form. The report under review deals with the form to be taken by a possible international recommendation on the vocational guidance, training and protection of the disabled.

[1] As a general rule, ILO publications are issued in English, French and Spanish.

Migrant Workers—Underdeveloped Countries. 1954, 79 p., printed, $ .50. Report V(2).
[Sc. Pr.] A report, similar to the foregoing, on a draft of new international regulations concerning short- or long-term migrations of workers in countries where the influence of a modern economy is resulting in the increasing disappearance of long-standing archaic forms of social organization and production.

Penal Sanctions for Breaches of Contract of Employment. 1954, 26 p., printed, $ .25. Report VI(2).
[Sc. Pr.] A report similar to the foregoing but dealing with the form to be taken by a possible recommendation which would supplement the 1939 Convention on the gradual reduction of the penal sanctions applicable to native workers for breaches of contract of employment. The aim seems to be to declare that the time has come to abolish such sanctions.

STATISTICS

Yearbook of Labour Statistics, 13th ed., 375 p., printed, $1.10. Trilingual: English, French, Spanish.
[Sc. St. Dp.] Summary of labour statistics for all parts of the world, based on annual data up to the end of 1952 and half-yearly data up to June 1953. Working population, employment, hours actually worked, unemployment, hours of work, wages and incomes, consumer price indexes, family investigations, social security, industrial accidents, labour disputes, migrations.

LABOUR IN INLAND TRANSPORT

[Sc. Ej. Dp. St. Pr.] In preparation for the Fifth Session (Geneva 1954) of the Inland Transport Commission (rail and road transport, inland waterways, docks, air transport), ILO has published four studies in the form of separate booklets of about a hundred pages each.

The first of these analyses the steps taken in the various countries to implement the conclusions of earlier sessions of the commission and outlines the arrangements made by ILO to set on foot the studies and surveys suggested by the commission. The second describes the advances recorded since 1951, in the various branches of transport, as regards labour legislation, the expansion and organization of transport networks, output, employment in harbours, and protection of workers against illness and accidents. The third examines employment conditions in road transport—volume and organization of the work, time-tables and holidays, working conditions in long-distance services.

The fourth study, dealing with dockworkers, is reviewed separately below.

DOCKWORKERS

Welfare Facilities for Dockworkers. 1953, 93 p.
[Sc. Ej. Dp. St. Pr.] This study is the fourth of those compiled in preparation for the Fifth Session of the Inland Transport Commission (see previous summary). It deals with a special question—the work of dockers and harbour workers in general, which is hard and irregular and which it is sought to organize more satisfactorily. The report outlines present trends in this connexion, describing the evolution of the specialized tasks to be performed in harbours. It then goes on to consider, from a very practical angle, appropriate measures for the improvement of dock labour offices, canteen services, washing, cloakroom and sick-bay facilities, means of transport to and from work, quality of clothing and the programmes of the educational and cultural centres.

SALARIED EMPLOYEES AND PROFESSIONAL WORKERS

[Sc. Pr. Ej. Dp. St.] In connexion with the Third Session (Geneva 1954) of the Advisory Committee on Salaried Employees and Professional Workers, ILO has published a

number of studies, including a general report on the ways in which the proposals put forward by previous sessions have been implemented in different countries. The other reports drawn up in preparation for this session deal with particular subjects and are reviewed separately below.

UNEMPLOYMENT AMONG WORKERS OTHER THAN MANUAL WORKERS

Unemployment among Salaried Employees and Salaried Professional Workers. 1953, 118 p.
[Sc. Pr. Ej. Dp. St.] Document prepared for the Third Session of the Advisory Committee on Salaried Employees and Professional Workers. General review of the problems raised by unemployment among workers other than manual workers. Analysis of certain of its causes. Description of the present situation and the dangers involved, with the measures recommended to counter them. Study of special problems such as the case of elderly employees, female employees, non-manual workers in economically underdeveloped countries, and of migration and international exchanges of non-manual workers, with suggestions for their solution.

WORK IN EDUCATION

Conditions of Employment of Teaching Personnel. 1954, 138 p.
[Sc. Pr. Ej. Dp. St.] Document prepared for the Third Session of the Advisory Committee on Salaried Employees and Professional Workers.

General description of the condition in which teachers work. Studies of certain special problems, e.g. freedom of association, co-operation of representatives of the teaching profession in the administration of education and its improvement from the technical standpoint, contracts of employment, work norms and professional training. Covers primary and secondary schoolteachers and instructors in vocational and technical training establishments.

INTERNATIONAL COMPARISONS OF STANDARDS OF LIVING

Salaries and Hours of Work in Government Service: An International Comparison. 1953, 12 p., printed, $ .10.
[Sc. St. Dp. Ej.] Results of a statistical investigation covering numerous countries carried out by ILO under its programme of research into the conditions of work of salaried employees and professional workers. The salaries of eight representative professions in public service compared, in terms of their absolute value, of the percentage they represent of the wages of office-messengers and industrial workers, and of their real purchasing power calculated on an hourly basis. Comparison of hours of work.

PRODUCTIVITY

Raising Productivity in Israel, by Hy Fish. 1953, 20 p., printed, $ .15.
[Pr. Sc. Ej.] Account of the conditions under which industry is developing in Israel and analysis of the programme and activities of the Israeli Productivity Institute. Assistance afforded by experts appointed by ILO.

Productivity and the Trade Unions in France, by René Richard. 27 p., printed, $ .15.
[Pr. Sc. Ej.] Discussions and disputes on productivity between differing schools of thought in the trade union movement, since the war. Information about 'joint union action' in this domain and description of the programme and work of the Centre intersyndical d'études et de recherches de productivité.

EMPLOYMENT OF WOMEN IN ASIAN COUNTRIES

Women's Employment in Asian Countries. 1953, 16 p., printed, $ .15.
[Sc. St. Dp.] Details of the amount of female labour employed in the various sectors

of Asian economy—traditional agriculture, plantations, crafts, industries, non-manual professions.

STUDY OF UNEMPLOYMENT IN ITALY

The Parliamentary Enquiry into Unemployment in Italy, by Roberto Tremelloni. 28 p., printed, $ .15.

[Sc. Ej.] Results of a widespread enquiry (present state of unemployment, its causes and evolution, prospects, necessary action) conducted in 1952 at the instance of the Chamber of Deputies, largely by sampling methods and with the co-operation of a large number of experts.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)

FAO BIENNIAL CONFERENCE

Seventh Session of the FAO Conference; Special Studies

[Sc. Pr. Org.] The FAO Conference meets every two years and the Seventh Session took place in November-December 1953.

For this session, a quantity of documentation was prepared, of which the printed items have since been gradually issued; notices of them have appeared regularly in this *Bulletin*. Miscellaneous unprinted items are to be found in a series of documents under the general reference C. 53—agenda, administrative reports, special studies (intergovernmental policies and agreements with regard to agricultural produce; trade in agricultural produce and the dollar shortage; wood-pulp throughout the world; international investments and agricultural credits; report of the expert working party on emergency food reserves).

LATIN AMERICA

Prospects for Agricultural Development in Latin America. 1953, 146 p.

[Sc. Ef. Dp. St.] Latin America needs to increase the yield of its agriculture quickly, as its population is expected to increase by one-quarter during the next 10 years, with a concurrent trend towards a higher standard of living. The continent also needs to be in a position to export agricultural produce, with the result that its industrialization implies a corresponding extension of its agriculture. This question is studied in the report under review, which discusses recent agricultural developments in Latin America, plans and programmes, prospects for 1956-57, bringing more land under cultivation, mechanization fisheries, forestry, and the economic and social effects. Numerous statistics.

ASIA AND THE FAR EAST

Agriculture in Asia and the Far East. Development and Outlook. 1953, 163 p.

[Sc. Es. Dp. St.] In view of the grave food situation throughout the world, FAO has undertaken a programme of assistance aimed at enabling the different nations to raise agricultural output at a rate swifter than that of the growth of the population. Regional conferences on the subject have been arranged. The present study is the fruit of a meeting held, under the programme in question, at Bangalore, India, on means of raising agricultural output in the countries of Asia and the Far East. Representatives of the following countries attended: Australia, Burma, Ceylon, France, India, Indonesia, Japan, Laos, Netherlands, United Kingdom, United States of America, Viet-Nam.

The report contains a brief account of the meeting (object, participants, proceedings, resolutions), summaries of delegations' reports on the existing situation, an analysis of

the work of FAO in the region, and an important documentary study by FAO (recent developments in production, exchanges, consumption, programmes and methods for agriculture, stock-breeding, fishery, forestry, etc., in the region). Numerous statistics.

NEAR EAST

Agriculture in the Near East. Development and Outlook. 1953, 78 p.
[Sc. Ej. Dp. St.] As part of the programme mentioned in the preceding item, a conference for the countries of the Near East was held in Cairo. It was attended by representatives of the following countries: Egypt, Ethiopia, France, Iraq, Hashemite Kingdom of Jordan, Lebanon, Pakistan, Saudi Arabia, Syria, United Kingdom. The report on this conference is similar to that reviewed in the previous item.

SCHOOL MEALS

School Feeding—Its Contribution to Child Nutrition. November 1953, 129 p., printed, $1. (*Nutrition Studies*, no. 10.)
[Pr. Sc. Ej.] Outline of the development of the trend which is leading schools in many countries to provide rational meals for their pupils.

Current programmes in various parts of the world, their organization and administration. Kinds of food best suited to school meals. Importance of school meals in the general complex of national and international measures relating to food. Use of dried and condensed milk; role of various foodstuffs in school-feeding schemes. Numerous illustrations and tables.

WORLD HEALTH ORGANIZATION (WHO)

STATISTICS

Mortality from Transport Accidents. Epidemiological and vital statistics report, vol. 6, no. 10-11. October-November 1953, 63 p., printed, $1. Bilingual: English-French.
[Sp. Dp. Ej.] The new international nomenclature for causes of death (adopted in 1948) makes it possible to arrive at detailed statistics of deaths from the various categories of transport accident.

Actual figures per category of transport (car, aeroplane, train, etc.), classified according to age and sex of victims; proportion of accidents in the different categories; proportion of deaths from transport accidents in relation to deaths from all causes; rate per 100,000 inhabitants.

RURAL HEALTH ORGANIZATION

Rural Hospitals. Structure and Organization, by R. F. Bridgman (*Monograph Series*, no. 21). 1954, 160 p., printed, $2.
[Sc. Pr. Ej.] From the socio-biological point of view, the rural hospital is the smallest medical unit available to the country population. The present tendency is to extend its functions beyond the strictly curative. The author explains the principles underlying the new concept of a rural hospital as a multi-purpose 'health centre', affording health education, preventive measures and medical treatment to the whole community. He also discusses the following points: the rural environment; theory of the rural hospital, structure and functions, range of services, staff, equipment, integration within the general health system, and the material requirements for setting up a rural hospital. Bibliography.

LEPROSY

International Digest of Health Legislation. Comparative Health Legislation: Leprosy, vol. 5, no. 1. 1954, 220 p., printed, $1.75.

[Sc. Pr. Dp. Ej.] Laws on leprosy and the treatment of lepers are becoming more humane. Prejudices on the subject are numerous and accordingly there must be scope for a rapid liberalization of the regulations applicable. The work under review gives an account of the present state of the question. Recent developments in the regulations in force in some thirty countries on the detection, treatment, isolation, employment, marriage, rehabilitation, etc., of lepers.

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION (UNESCO)

LIVING IN A WORLD COMMUNITY

Education for Living in a World Community. Report of the Advisory Committee of Experts held at Unesco House from 15 to 25 July 1953. 25 November 1953, 50 p. 36 EX/8.
[Org. Sc.] This committee of independent experts undertook a detailed examination of the principles by which Unesco should be guided in regard to education for living in a world community (development of attitudes consonant with the needs arising from the real interdependence of the peoples in the modern world), particularly during the years 1955-56. Specific practical recommendations, including a number of ideas and suggestions of possible interest to social scientists (adaptation of proposed activities to the psycho-sociological and cultural factors which influence the training of young people and the conduct of today's adults, determination of the key persons in the various social groups, etc.).

EDUCATION

The Training of Rural School Teachers, by M. B. Lourenzo Filho, L. A. Creedy, E. A. Pires and Isidro Castillo (*Problems in Education* series, no. VII). 164 p., printed, 350 French frs.
[Sc. Pr. Ej. Dp.] Our own times are distinguished by a powerful urge to extend education to all sections of the world population, which implies in particular the development of education in rural areas. As part of its programme for the promotion of compulsory schooling for all, Unesco asked four eminent experts to write studies on the training of rural school teachers in Brazil, the Gold Coast, India and Mexico respectively. These studies have been collected in the work under review. They deal with the following matters: circumstances which made it necessary to adopt a special system for the training of rural school teachers; practical experiments in such training; contemporary trends in training programmes for rural school teachers; consideration of the main social, material and administrative problems involved; relationship to the work of the social centres and, more generally, to fundamental education and the economic, social and political progress of communities.

African Languages and English in Education. Report of a Meeting of Experts on the use of African languages in education when the second language adopted is English. Meeting held at Jos (Nigeria), in November 1952. (*Educational Studies and Documents* series, no. 11.) 1953, 94 p., printed, 125 French frs.
[Pr. Sc.] This meeting was arranged for the practical purpose of helping the national and local authorities concerned to improve the methods and materials used to teach people to read and write, alike in their mother tongue and in English. The volume under review consists firstly of the report on the proceedings and recommendations of the meeting, followed by a series of papers drawn up by experts on the main aspects of the problem under consideration.[1]

[1] Both this booklet and William S. Gray's study on methods of teaching reading and writing are part of a genera programme, undertaken by Unesco at the request of the United Nations, concerning the teaching of languages as it affects the literacy campaign and the improvement of the living conditions of local communities. The question of using native (or vernacular) languages was studied in its general aspects by an expert committee in 1951 and discussed in 1953 in a monograph already reviewed *The Use of Vernacular Languages in Education*.

Preliminary Survey on Methods of Teaching Reading and Writing, by W. S. Gray. In two parts. (*Educational Studies and Documents* series, no. V.) 1953, part I, 66 p., printed; part II, 72 p., printed, 100 French frs.

[Pr. Sc.] Interim report on current trends in methods used for the teaching of reading and writing in fundamental education programmes. This is an initial critical study of the data available. Experts in the various countries are asked to acquaint themselves with its contents and to send in their comments and suggestions, with a view to the preparation of a more detailed study. Part I surveys traditional and current theoretical discussions of the significance and development of the abilities to read and write, demonstrates how acceptance of a particular concept of how their skills can best be inculcated determines the details of lesson planning, etc., and illustrates the effects of having acquired the skills.

Part II undertakes a more thorough discussion of specific problems—teaching (a) children; (b) adults to read; teaching (a) children; (b) adults to write; aims and procedures, materials used, etc. Bibliography.

Adult Education. Reports on the Meeting of Experts held at La Brévière, from 8 to 15 August 1953 and on the Consultative Committee on Adult Education (La Brévière, 12-14 August 1953). 26 November 1953, 6 p. 36 EX/5.

[Org.] In the course of these two joint meetings, experts considered the tasks to be carried out by Unesco in 1954 and the following years in adult education (popular education in rural areas, education and spare-time occupations of workers, seminars, summer courses, permanent adult education centre, technical assistance, projected publications, etc.).

LEGAL QUESTIONS

La Declaración Universal de Derechos del Hombre. Trabajos del seminario efectuado en La Habana por la Unesco y la Academia interamericana de derecho comparado e internacional (Agosto 4-16 de 1952), Cursos monograficos, volumen III. Academia interamericana de derecho comparado e internacional. La Habana, Cuba, 1953. 347 p., printed.

[Sc. Ej.] Texts of the lectures and discussions which took place at a seminar organized by the Inter-American Academy of Comparative and International Law and by Unesco, at Havana, in 1952, on the Universal Declaration of Human Rights: society and the rights of the individual; human rights and the means of achieving them; human rights and economic and social advances; projects and covenants relating to human rights at the pan-American and the international level.

A Register of Legal Documentation in the World. 362 p., printed, 1,100 French frs. Bilingual: English-French.

[Sc. Pr.] Compiled by the International Committee of Comparative Law with the assistance of the International Committee for Social Science Documentation, set up in 1950 by Unesco. This register provides detailed information, for nearly all the countries and territories of the world, on the legal sources in current use—constitutions, legal codes, publications in which laws and decrees are promulgated, digests of case law, law catalogues, usual systems of reference and abbreviations, commentaries and annotations, collections, periodicals and reviews, law files and card archives. Information is also given on centres of activity in legal studies (faculties, institutes, specialist associations, etc.) and on libraries and documentation services of special interest to jurists.

ATTITUDES, PUBLIC OPINION

How Nations See Each Other, by William Buchanan and Hadley Cantril, assisted by Virginia van S. Zerega, Henry Durant and James R. White. Produced under Unesco's auspices. Urbana, University of Illinois Press, 1953. 220 p., printed, $5.

[Sc. Ej. Dp.] As part of its programme on tensions affecting international understanding, Unesco sponsored a pilot survey, carried out by the sampling method, which is the subject of the work under review. In the course of the enquiry, some twenty questions were asked of representative samples of the population in the following countries: Australia, France, German Federal Republic, Italy, Mexico, Netherlands, Norway, United Kingdom and United States of America. The aim was to collect facts relating in particular to class consciousness as a factor in attitudes towards other peoples, national stereotypes, and opinions on certain general questions (whether human nature is perfectible or not; prospects of achieving world peace, etc.). Detailed description of the organization and results of the samplings undertaken in the nine countries which took part in the enquiry and scientific analysis of the chief data collected in this way.

THE TEACHING OF THE SOCIAL SCIENCES

The Teaching of the Social Sciences in the United Kingdom (*Teaching in the Social Sciences* series). 1953, 140 p., printed, 300 French frs.

[Pr. Sc. Ej.] A general introduction, by Sir Ernest Barker, deals with the organization of universities and other institutions of higher learning. This is followed by papers by experts on the teaching of political economy, political science, sociology, social anthropology, social psychology, international relations and law (evolution, present organization and aims, curricula and diplomas, connexion with research and practical work, position of the various universities, of the institutes, etc.).

PRESS, FILMS, RADIO, TV

One Week's News. A seven-day comparative study of 17 large circulation daily papers, by Jacques Kayser, with graphs by Jean Lhuer, 1953, 131 p., printed, 700 French frs.

[Sc. Ej. Dp. St.] A quantitative and qualitative analysis of the contents of 17 daily papers over a normal week. The events which took place during the period under consideration are first rapidly outlined, after which a brief account is given of the history and structure of each of the newspapers studied. The papers selected were the morning papers of largest circulation in each of 17 countries, viz: *Al Misri* (Cairo), *Rand Daily Mail* (Johannesburg), *La Prensa* (Mexico), *Daily News* (New York), *La Nacion* (Buenos Aires), *O Estado* (São Paulo), *Ta Kung Pao* (Shanghai), *The Times of India* (Bombay), *Hürriyet* (Istanbul), *Le Parisien Libéré* (Paris), *Corriere della Sera* (Milan), *Daily Express* (London), *Dagens Nyheter* (Stockholm), *Rude Pravo* (Prague), *Borba* (Belgrade), *Daily Telegraph* (Sydney), *Pravda* (Moscow).

The content of these papers is dissected, compared and commented on. Numerous graphs. As an appendix, a supplementary analysis is given of four papers of very wide international circulation: *The Times* (London), *Izvestia* (Moscow), *The New York Times* (New York), *Le Monde* (Paris).

Transmitting World News: A Study of Telecommunications and the Press, by Francis Williams. 1953, 111 p., printed, 300 French frs.

[Sc. Dp. Ej. Pr.] Mr. Francis Williams is one of the leading British experts on news information services. On Unesco's behalf he undertook a general study of the part played in public information, at the international level, by telecommunications (transmission by cable, radio, etc.). The work under review sums up his observations and conclusions: history; present needs and resources; organization of networks; world and national news services; problems regarding tariffs; teleprinter and phototelegraphic services. Conclusions and recommendations. Bibliography.

SURVEYS AND MONOGRAPHS

Nouville, un village français, by Lucien Bernot and René Blancard. Published with Unesco's assistance. University of Paris. Travaux et Mémoires de l'Institut d'Ethnologie. LVII. Bibliothèque générale de l'École pratique des hautes études, VI[e] section, 1954. 447 p., printed, 2,000 French frs.

[Sc.] A detailed study of the behaviours of the inhabitants of a French village of about five hundred inhabitants and of the social framework in which their lives are lived.

The joint authors wrote their work following investigations carried out on the spot over two years, with the co-operation of the inhabitants of Nouville. Matters dealt with are the following: geographical, historical and economic background. Cycle of individual life, from birth to death (parent-child relationships, education, relations between boys and girls, leisure-time activities, marriage, family life, old age, attitudes towards death). Behaviours and values evinced in community activities, *vis-à-vis* the authorities, various phenomena (degree of information, 'visualization' of time and space), and strangers. The investigators made use of existing documentation and concentrated mainly on direct observations, ranging from ordinary sociological interviews to the application of tests (Murray, Rorschach, etc.). Unesco assisted the production of this monograph.

The Swiss Confederation, by Denis de Rougemont. Introduction by Lucien Febvre. (*Way of Life* series.) International Studies Conference. Monaco, Éditions du Rocher, 1953. 183 p., printed, 450 francs.

[Sc. Ej.] The *Way of Life* series was launched with Unesco's assistance, under the aegis of the International Studies Conference, with the object of supplying the general public, in simple form, with information that would make it easier to compare the institutions and aspirations of different countries. Denis de Rougemont, an internationally known Swiss writer, has produced an essay on the Swiss Confederation which is at once objective in its documentation and personal in the originality of the judgments expressed. The Swiss people and its history; its political, social, economic, professional and trade union institutions; family and education; religious life; attitude towards, and situation in relation to, the rest of the world.

SOCIAL STRATIFICATION AND MOBILITY (BIBLIOGRAPHY)

Social Stratification: A Trend Report and Bibliography, vol. II, no. 1, of *Current Sociology*. Periodical. 74 p., printed. Price per number, 300 French frs.; yearly subscription, 900 French frs.

[Sc.] A general outline by Donald G. MacRae of the past development and present trends in sociological works on social stratification and mobility, followed by a bibliography, compiled by the author, on these questions (616 references).

SOCIOLOGICAL BIBLIOGRAPHY

International Bibliography of Sociology (Works published between 1 January and 31 December 1952). Vol. II, no. 2-3 of *Current Sociology*. Periodical. 273 p., printed. Price per number, 300 French frs.; annual subscription, 900 French frs.

[Sc.] Classified list, unannotated, of over 3,500 sociological publications (books, articles, etc.,) issued in the various countries during the above-mentioned period.

EXPLANATION OF ABREVIATIONS USED

Dp. = Presents facts country by country (or region by region).
Ej. = Supplies essential information to educators and journalists interested in social questions.
Org. = Is very useful for knowledge of the current activities of the international organization concerned.
Pr. = Supplies useful factual information for certain groups of people (educators, government officials, members of international organizations and social institutions, etc.) whose activities are connected with the subject matter of the document.
St. = Contains statistics.
Sc. = Deserves the attention of scientific workers in the field concerned.

The importance of these conventional signs is, of course, purely relative, and we do not wish their use to be taken as implying a system of classification. We use them merely in order to give as brief an abstract as is consistent with indicating, in the easiest way possible, that part of the contents of the publications and documents under review which relates to some particular branch of social science.

INTERNATIONAL REVIEW OF PERIODICALS

GENERAL

SCHWARZ (Urs). 'A Conference on the Study of International Affairs', *Swiss Review of World Affairs* 3(9), December 1953, p. 20-2.

An International Conference of Institutes of World Affairs was held recently in New York, under the auspices of the Carnegie Foundation for International Peace, in order to discuss what should be the aims and methods of an objective and scientific study of international relations. The first topic dealt with by the conference was the evolution of UN, especially its work on behalf of underdeveloped countries, the notion of 'reserved questions' and problems connected with economic and military sanctions. The conference then discussed the problem of 'information'. The task of the Institutes of World Affairs was to instruct and interest the general public in the efforts made to establish peace and international co-operation. The different techniques used for that purpose were also discussed.

WEHBERG (Hans). 'Die völkerrechtliche Verantwortung von Individuen wegen Friedensbruch im Zeitalter des Völkerbunds' (The international responsibility of individuals for crimes against peace in the days of the League of Nations), p. 380-94, in: *Gegenwartsprobleme des internationalen Rechts und der Rechtsphilosophie* (Festschrift für Rudolf Laun zu seinem siebzigsten Geburtstag. Herausgegeben von D. S. Constantopoulos und Hans Wehberg). Hamburg, Girardet & Co., 1953, 8vo, 776 p.

Many years of discussion were necessary before the League of Nations finally decided to outlaw wars of aggression, and even then the league did not venture to stigmatize states that launched such wars.

The sanctions employed against Italy at the time of the Ethiopian war were regarded, not as a punishment, but simply as a measure to put an end to the war.

The idea of individual responsibility for breaches of international law was formulated only in Article 277 of the Treaty of Versailles, and the principles invoked for the indictment of Wilhelm II were not accepted by the Law of Nations.

UNITED NATIONS ORGANIZATION

GENERAL POLICY

GIL BENUMEYA (R.). 'Esencia y trayectoria del bloque africano asiatico', *Cuadernos de estudios africanos* (24), fourth quarterly number, 1953, p. 9-22.

After three years of joint activity by the African-Asian bloc at the United Nations, it is useful to retrace the evolution of this bloc and show the direction in which it is tending. Brought into existence at the United Nations General Assembly in London in January 1946, with the support of the Spanish-Americans and the five Arab countries, the bloc was consolidated in 1947-48 on the occasion of the Palestine conflict. It then

developed still further—thanks to the ideas expressed by Pandit Nehru and Carlos Romulo with regard to independence *vis-à-vis* the two major blocs on the one hand, and the rights of the small nations on the other—during conferences at New Delhi in January 1949, at Baguio (Philippines) in March 1950, and in November of the same year at Lake Success. Mohammed Zafrullah Khan, Minister of Pakistan, made a practical contribution to the firm establishment of the bloc (then composed of 13 countries bound, however, by no normal engagement) by co-ordinating the activities of its members' delegations at UN. The bloc proved to be one of the major forces at the Sixth Session of the UN General Assembly (Paris, December 1951) and saw its efforts crowned with success in February 1952 by the recognition of the right to self-determination. This bloc—which has been regarded alternatively as a system of alliances capable of utilization by either of the two major blocs, and as the embryo of a group representing the coloured peoples—is characterized mainly by its determination to abolish gradually the domination of the weaker by the stronger nations, and by its attitude towards a large number of problems, like those involving South-East Asia and North Africa. This desire to ensure respect for the equal rights of the small nations inspired the attitude adopted by the bloc in the Tunisian and Moroccan questions; and it will lead it in the future to co-operate more closely with the Spanish-speaking countries which subscribe to the same principles.

JENKS (C. W.). 'Co-ordination in International Organization: An Introductory Survey', *British Yearbook of International Law, 1951*, London and New York, Oxford University Press, 1952, 4to, p. 29-90.

Co-ordination of the efforts of the various international organizations is of fundamental importance to the maintenance and consolidation of peace. Organizations functioning effectively would enjoy the confidence of states, which would have more frequent recourse to them and would thus contribute to the development of international relations and the wider role of international law. Failing such co-ordination, the proliferation and ineffectiveness of international organizations would merely heighten existing discord throughout the world. One instance of this danger would be the establishment of a European Court of Justice, which would certainly become a rival of the Hague Court.

LEDERMANN (L.). 'L'Organisation internationale contemporaine : un bilan provisoire', *Revue politique et parlementaire* 55(633), December 1953, p. 349-61.

Each of the great wars of the last 150 years has been followed by the establishment of an international organization—a sociological phenomenon which is taking ever deeper root in the traditions of the peoples. However, the Quintuple Alliance of 1818, the League of Nations and the United Nations each remained faithful to the principles and traditions of their time. Whereas the League of Nations adhered to individualism and liberalism, UN is inspired by the ideas of planning and of economic and social co-operation on an international scale—hence Chapters IX and X of the Charter. Consequently, from the functional point of view—Specialized Agencies—UN is, by its range, unique in the history of international organization. According to its ideas, peace must be maintained not only through the peaceful solution of disputes, but also through the uninterrupted development of international co-operation of a functional nature, in order to lessen dissension between states and to harmonize their various interests. Despite certain drawbacks—officialism, hypertrophy of organs—the institution's balance, in achievement, has so far been a 'credit' one. In 1955 it will perhaps be possible, by adapting the Charter, to make it correspond even more closely to the new needs of an international society which is becoming more and more welded into a single whole.

RELATIONS WITH STATES

MUDALLIAR (A. L.). 'United Nations, Its Specialized Agencies and India's Part

therein', *Indian Yearbook of International Affairs*. Published under the auspices of the Indian Study Group of International Affairs. University of Madras, Editor: Charles Henry Alexandrowiez. Madras, The Diocesan Press, 4to, p. 35-46.

The role played by India as a member of the United Nations and its Specialized Agencies has frequently been criticized. Nevertheless, it is undeniable that this country's attitude has always been inspired by the principle of *ahimsa* and the teachings of Gandhi. Consequently, its views cannot conflict with the aims of UN.

GOODRICH (L. M.). 'Korea—Collective Measures against Aggression', *International Conciliation* (494), October 1953, 192 p.

The end of the war in Korea enables us to draw the following conclusions concerning the future of collective security. Firstly, it is necessary to strengthen regional security pacts, within the framework of which the obligation to lend mutual assistance against an aggressor tends to be more scrupulously respected; although a fairly large number of nations responded to the United Nations' appeal on behalf of Korea, it is by no means certain that a similar response would be made in the future. Secondly, collective intervention must not depend on the participation or abstention of one or other of the great powers. Further, the problem of the political direction of future interventions against an aggressor should be closely studied. Lastly, the United Nations forces must carefully consider the views of the state against which the aggression is committed, without allowing themselves to be involded by it in a political adventure.

KRUSE (H.). 'Das Prinzip der freiwilligen Repatriierung' (The principle of voluntary repatriation), *Aussenpolitik* 5(4), January 1954, p. 36-42.

The case of prisoners-of-war who refuse to be repatriated raises a problem only when the detaining power takes their desires into consideration because the motives inspiring them coincide with those guiding its own action. This happened with the prisoners-of-war held by the Unified Command in Korea. According to the Hague Conventions and the Geneva Conventions of 1949, the detaining power is bound to liberate and repatriate prisoners-of-war on the cessation of hostilities; but, complying with the wishes and directives of Western politicians, the Unified Command invoked the right of each individual to make his own decision. The rejection of this idea by the Sino-Koreans and the Soviets, and their arguments in favour of total repatriation, gave rise to a discussion on this question at the Seventh Session of the United Nations General Assembly in the autumn of 1952. For humanitarian reasons, 21 states approved the view of the Unified Command and adopted the principle of voluntary repatriation. However, over and above the legal discussions, what was raised at Pan Mun Jom was the essentially political problem of the right of sanctuary. The right of states to accord sanctuary to political refugees is today an established rule of international customary law. Materially, there is no difference between a political refugee and a prisoner-of-war who for political reasons does not wish to return to his country. Moreover, the question of the granting of sanctuary to prisoners-of-war had been raised during the discussion of the draft Geneva Conventions. What was then at issue was the establishment of a new rule of international positive law. However, during the discussions at Pan Mun Jom, the principle of voluntary repatriation was distorted. This all proves that, for the moment, we are still faced with a political principle rather than with a rule of law.

ORGANS OF THE UNITED NATIONS

BRUGIÈRE (Pierre). 'Les résolutions amendant les pouvoirs de l'Assemblée des Nations Unies pour la sécurité collective', *Revue Générale de Droit International Public* 24(3), July-September 1953, p. 453-76.

At present, a number of factors prevent the proper functioning of the United Nations: the almost exclusive use of the right of veto by one of the permanent members of the Security Council; the differences of opinion between the great powers; the absence of agreements such as those mentioned in Article 43 of the Charter.

The Korean war left no doubt of the existence of these difficulties. A reform was necessary in order to enable the General Assembly to replace the Security Council whenever the latter failed to perform its functions.

This reform was introduced, on the initiative of Mr. Acheson, by means of three resolutions adopted by the General Assembly on 3 November 1950 under the title of 'Uniting for Peace'. It is a structural reform effected outside the amendment procedure prescribed by the Charter, of which it is regarded, by the states of the Soviet bloc, as a violation. It is by no means certain that the fairly cumbersome machinery of the Acheson Plan can be made to work effectively in place of the Security Council, even where the latter is paralysed. It would, perhaps, have been better to amend the functioning of the council itself.

SCHWEBEL (S. M.). 'The Origins and Development of Article 99 of the Charter, *British Yearbook of International Law, 1951*. London and Oxford, Oxford University Press' 1951, 4to, p. 371-82,

The three American proposals concerning the powers of the United Nations Secretary-General throw some light on the standpoint of the United States and make it possible to explain to some extent the mysteries of the Dumbarton Oaks Conference, whose protocol has not yet been published. The powers of the Secretary-General resemble but exceed those granted to Member States and to the General Assembly; he can in fact draw the Security Council's attention to matters which do not constitute an immediate threat to peace. Although the United Nations Secretary-General has used his prerogatives only once—at the beginning of the Korean war—it can be said that his powers greatly exceed those accorded to the Secretary-General of the League of Nations.

FITZMAURICE (G. G.). 'The Law and Procedure of the International Court of Justice: Treaty Interpretation and certain other Treaty Points', *British Yearbook of International Law, 1951*. London and Oxford, Oxford University Press, 1951, 4to, p. 1-29.

Although the International Court of Justice has not definitely declared itself in favour of one or other of the methods of interpreting treaties, the court's decisions show that most of the judges favour textual interpretation, a minority advocating teleological interpretation. However, both methods have this in common, that they obviate the need for preparatory work and accord only secondary importance to the question of what the parties originally intended.

GUTTERIDGE (H. C.). 'The Meaning and Scope of Article 38, §1 of the Statute of the International Court of Justice', *Grotius Society. Problems of Public and Private International Law*. Transaction for the year 1952. London, The Grotius Society, 1952, 8vo, p. 125-35.

A discussion on this subject took place on 11 June 1952 between Messrs. Gutteridge, Bin Cheng and Adamkiewics. They emphasized the importance of the article in question, despite the difficulties involved in its interpretation. As international jurisprudence is less substantial than the internal jurisprudence of states, it relies more frequently on general principles of law. However, no universally recognized principle of law exists. Recourse to internal law is not a solution that can be adopted in all circumstances. Only with the help of comparative law can adequate interpretation be found.

HAMBRO (E.). 'The International Court of Justice', *International Affairs* (1), January 1954, p. 1-13.

The International Court of Justice plays a necessarily limited, though by no means negligible, part in international affairs. It would be unable to prevent a war, but it can render important services in time of peace. Thus, in certain circumstances, it facilitates the settlement of international disputes. In certain cases, its decisions lead it to codify international customary law and establish new rules of law. Nevertheless, the present world situation does not permit any extension of the court's jurisdiction, however desirable that may seem.

'International Co-operation for Higher Living Standards', *Indonesian Affairs* 3(2), February 1953, p. 2-16.

At its session at Bandoeng, from 6 to 13 February 1953, the Assembly of the Economic Commission for Asia and the Far East noted with satisfaction certain results achieved in South Asia during the preceding few years. For instance, agricultural production increased by 1 per cent in comparison with what it was during the pre-war period, and numerous industrial enterprises were established. Unfortunately, these achievements were partly offset by a disproportionate increase in the population, and by a fall in prices which threatened to ruin many of the new enterprises in industry. Nevertheless, ECAFE has fixed as its next objective the mobilizing of local capital and the establishment of new medium-sized enterprises. It has just re-emphasized the importance it attaches to the problem of communications by deciding to open, in Pakistan, a special course for the staff of the railways in South Asia, with a view to improving the regularity of the services.

TECHNICAL ASSISTANCE

DE GROOTE (L.). 'L'assistance technique des Nations Unies et la paix', *La revue politique* 3(6), 25 December 1953, p. 597-608.

More than half of the world's population suffers from malnutrition. In general, it is the densely populated countries that are underfed; nor can they procure consumer goods and equipment, their financial resources being poor owing to the extremely unequal distribution of wealth. In these circumstances, international solidarity calls for a 'New Deal' on a world scale, whereby the more favoured countries, in putting an end to this unequal distribution, would at the same time be removing one of the main causes of the world's instability. The United Nations technical assistance programme cannot hope to be a complete success unless the present war of ideologies is replaced by the only war which is worthy of humanity—that is to say, in Eisenhower's words, an open war, a total war, not against a human enemy, but against the brute forces of poverty and need.

FRANKEL (S. H.). 'L'A.B.C. delle Nazioni Unite per lo sviluppo economico', *Mondo aperto* 7(4-5), August-September 1953, p. 171-85.

The author examines point by point the United Nations report on the measures to be taken for the economic development of underdeveloped countries, and criticizes the Organization's tendency to deal with economic questions of world importance by means of vaguely-worded questionnaires. Nevertheless, the report is of great significance from the social and human standpoints; and it endeavours to give an official definition of 'progress'. But its authors do not seem to be sufficiently aware of their responsibilities when formulating definitions; they appear to imagine that progress can be easily 'measured' and that it depends mainly on the will of the rulers, who may or may not desire the rapid development of their country. Further, it is particularly necessary to beware of 'rapid changes' of structure, which might have disastrous effects on the evolution of an underdeveloped country and destroy every possibility of really effective assistance, whether public or private.

MINJOZ (J.). 'L'aide aux pays insuffisamment développés', *Revue socialiste* (72), December 1953, p. 504-9.

The continuing increase in the world's population unaccompanied by a corresponding increase in food production, as well as differences in the living standards and economic development of countries, render technical and financial assistance on the international plane essential. By establishing such a programme of assistance in 1951, the United Nations did no more than comply with Article 55 of the Charter. A vast amount of capital is required in order to give the necessary stimulus to economically backward countries. Experts have estimated that an annual sum of 13 milliard dollars would be necessary in order to increase the national revenue of underdeveloped countries by 2 per cent per annum and *per capita*. It would be difficult for private capital to provide

such enormous sums; public capital, in the form of gifts or loans, administered by the United Nations and an 'International Development Office', should be employed for that purpose. Effective economic assistance would certainly mitigate one of the main causes of international tension.

SEWELL COSTETTI (M.). 'Un esempio per l'umanità'. *Ponte* 9(11), November 1953, p. 1585-90.

On 25 June 1952, the Norwegian Parliament unanimously adopted a government project for granting assistance to economically and technically backward countries. To that end, it voted a sum of 10 million crowns for the financing of the project during the first year. This aid, however, will not be merely financial and technical, but will also consist of fairly substantial supplies of marchandise and services. Consequent upon a tripartite agreement concluded in New York, in Octobre 1952, between the United Nations, Norway and India, the project is already being implemented in the State of Travancore-Cochin, on the south-west coast of the peninsula. The plan is mainly one for the improvement of fishing methods in a poor and overpopulated area, as well as for the organization of health services and water supplies and for the establishment of co-operatives. Requiring only a limited number of Norwegian technicians and experts, it will be directed by the man who was in charge of the reconstruction of the extreme north of Norway, where the Germans had pursued a 'scorched earth' policy. Although the Norwegian project reflects, basically, a humanitarian impulse, it shows that Norway is fully alive to considerations of international solidarity, and to the danger which the existence of underdeveloped countries represents for the world as a whole.

INTERNATIONAL LAW

BRANDON (M.). 'The Legal Status of the Premises of the United Nations', *British Yearbook of International Law, 1951*, London and Oxford, Oxford University Press, 1951, 4to, p. 90-114.

The premises occupied by international organizations enjoy the same immunities as those of diplomatic missions. International organizations can thus discharge their tasks in complete independence. Experience alone will show whether a change in the status of such premises is desirable.

FITZMAURICE (G. G.). 'The United Nations and the Rule of Law', *Grotius Society. Problems of Public and Private International Law*. Transaction for the year 1952. London, The Grotius Society, 1952, 8vo, p. 135-51.

Although the United Nations Charter calls for the strict application of international law, the organs of UN (more particularly the Security Council) rarely appeal to the International Court of Justice, and neglect to codify international customary law. What is the reason for this shortcoming? Four different groups refuse to recognize the primacy of international law. Firstly, there are the opportunists—usually the people's democracies—who despise international law; secondly, the 'conciliators', who maintain that peace must be based on agreements; thirdly, the nationalists, i.e., primarily the states which, having obtained their independence only recently, fear lest it be jeopardized by the action of international law; and fourthly, the 'idealists', who feel that justice should rank above law.

GLASER (Stefan). 'La guerre d'agression à la lumière des sources du droit international', *Revue générale de droit international public* 24(3), July-September 1953, p. 398-443.

According to the Nuremberg International Military Tribunal, a war of aggression is the supreme international crime.

The 'Nuremberg laws' did not, however, create a new system of law, a new conception of crime; the concept on which they were based was in line with the system of international law already in force before the second world war. In fact, from the standpoint of the basis of law and its formal sources, a war of aggression constituted a violation of international law, even before 1939.

This is confirmed by an analysis of the general principles of law and of the views of the theorists.

Since the end of the second world war—a typical example of unprovoked aggression—efforts have been made to render the outlawry of war more effective. This is the object of the United Nations Charter as well as of the Charter and judgment of the Nuremberg International Military Tribunal, whose principles were confirmed by a resolution of the United Nations General Assembly. It is also the purpose of the work of the International Law Commission, which has just drawn up a draft code of offences against the peace and security of mankind.

KOMARNICKI (T., LL.D.). 'The Problem of Neutrality under the United Nations Charter', *Grotius Society. Problems of Public and Private International Law.* Transaction for the year 1952. London, The Grotius Society, 1953, 8vo.

In view of the world's division into two blocs, it is unlikely that the Security Council will be able to fulfil its functions in the event of armed conflict. In those circumstances, non-belligerent states would normally be bound to remain strictly neutral and could not exercise, as they did between the two world wars, the right to succour the victim of the aggression, without being regarded as parties to the dispute. Nevertheless, certain theorists combat such a narrow interpretation of the Charter and recognize what was called between the two world wars, the 'right of non-belligerency'. The opinion of these theorists cannot be accepted without destroying the unanimity existing in this matter. The U.S.S.R., for its part, demands that the rules of neutrality be strictly observed.

HUMAN RIGHTS

BING (H. F.). 'The United Nations and Human Rights', *Contemporary Review* (1056), December 1953, p. 363-67.

Only after the second world war was the need for a universal recognition of human rights admitted by the nations that signed the United Nations Charter. However, the Universal Declaration of Human Rights, adopted by the General Assembly, has remained entirely within the realm of theory. The Commission on Human Rights has for many years been vainly endeavouring to find some means of enforcing human rights. Further, the Western point of view—that political rights alone should be protected—clashes with the Soviet standpoint, according to which mankind should enjoy certain economic rights. The resignation of the United States delegates obstructs the commission in the continuance of its work. It is already quite clear that the United Nations can play no more than a conciliatory role in conflicts arising out of the infringement of human rights.

JULIEN (Ch.-A.). 'Colonisation et droits de l'homme', *La tribune des peuples* 1(5), December 1953-January 1954, p. 65-77.

The concept of human rights, as formulated by the French philosophers of the eighteenth century, admitted of no exceptions. The statesmen of Philadelphia and Paris, who were the first to codify the principles of these rights in declarations, found themselves, when grappling with the problem of slavery, confronted by a contradiction which still lacks a solution, except in the form of 'colonial realism'. Moreover, the 'Universal Declaration of Human Rights', adopted on 10 December 1948 by the United Nations General Assembly, simply proclaimed the rights of the individual; for these it was difficult to provide guarantees within the framework of native societies, which essentially revolve around natural, family, social and cultural communities. However, the principles proclaimed in the preamble to the declaration are of fundamental interest to native inhabitants, for, if they were scrupulously applied, colonization would cease to exist. But the declaration was no more than an ideal intended to guide the policies of the various governments; and when it was proposed to convert it into a covenant, it suddenly became evident that a restrictive 'colonial' clause must be included in it. The same thing occurred at Strasbourg with the application of the Convention for the

Protection of Human Rights and Fundamental Freedoms: a 'colonial' clause was inserted in the text as finally adopted, stipulating that the convention would not apply to the colonial territories of a contracting party unless the latter made an express declaration to that effect beforehand. Although, in present conditions of colonial life, it is possible to define the fundamental rights of native inhabitants, it would be necessary to change the régime and the men in command, in order to ensure complete respect for human rights. In short, only national independence can guarantee native inhabitants the material and spiritual welfare to which they are entitled.

KRISHNASWANY AIYER (A.). 'Human Rights', *Indian Yearbook of International Affairs, 1952*. Published under the auspices of the Indian Study Group of International Affairs, University of Madras. Editor: Charles Henry Alexandrowicz. Madras, The Diocesan Press, 1952, 4to, p. 179-85.

The Universal Declaration of Human Rights has made the individual a subject of international law. So far, however, the United Nations has been unable to impose sanctions for infringements of human rights. Thus no measures have been taken against South Africa, which practises racial discrimination. Moreover, the declaration has not been universally approved. The people's democracies reproach the Western countries with having brought to naught their proposal to include in it certain economic rights, whereas the Western countries criticize the people's democracies for having opposed the inclusion of the right to own property.

ROBERTSON (A. H.). 'The European Convention on Human Rights: Recent Developments', *British Yearbook of International Law, 1951*, London and Oxford, Oxford University Press, 1951, 4to, p. 359-65.

The (European) Convention for the Protection of Human Rights and Fundamental Freedoms, signed in Rome on 4 November 1950, has so far been ratified by only three governments. Most of the others consider that the convention is inadequate and are awaiting the addition of a supplementary protocol before submitting it to their respective parliaments. Further, no agreement has yet been concluded regarding the right to own property, the right to education, and freedom of elections.

VERDIER (R.). 'Droits convenus des peuples en tutelle', *Evidences* 5(35), November 1953, p. 5-8.

Will the colonial powers maintain themselves in their overseas territories by force and in contempt of those 'human rights' which they were the first to proclaim and which, since 1945, have been confirmed by international organizations? In this respect, there is a cleavage between law and reality, as is shown by recent events, particularly in British Guiana. The most resolute supporters of the colonial system now, we see, invoke the need to defend the economic and social rights of the native masses in order to justify their refusal to effect political reforms. Further, the repressive measures employed by the metropolitan territories to resist the national and social demands of the colonies are a form of despotism and a violation of the dignity of the human person. Moreover, in the territories where a 'minority' problem exists, as in North Africa and more particularly Morocco with regard to the Jewish minority, the protecting powers must not invoke the complexity of the situation in order to shirk their duty of establishing a system under which human rights are fully safeguarded. The heritage from the colonial era is a very heavy one for the democracies, which should take every occasion of displaying their firm intention to hasten the real emancipation of the peoples inhabiting non-self-governing territories.

INTERNATIONAL CRIMINAL LAW

PILLOUD (Claude). 'La protection pénale des conventions humanitaires internationales', *Revue internationale de la Croix-Rouge* 35(419), November 1953, p. 842-74.

Several states already possess penal laws repressing certain infringements of the Geneva Conventions of 1949; but the ratification of these conventions must lead everywhere to

the promulgation of complementary penal legislation. The task of the Sixth International Congress of Criminal Law is to lay the basis for such legislation by stipulating that 'torture', 'inhuman treatment', the act of 'depriving a person protected by the Fourth Convention of his right to be judged fairly and impartially according to the provisions of the Conventions', and 'the act of compelling any person to serve in an enemy army' shall constitute special crimes, and by providing a definite penalty for each of them.

REUT-NICOLUSSI (D. Eduard). 'Zum Problem der Friedenssicherung durch Strafgerichtbarkeit' (The problem of ensuring peace by means of criminal jurisdiction), p. 367-79 in: *Gegenwartsprobleme des internationalen Rechts and der Rechtsphilosophie* (Festschrift für Rudolf Laun zu seinem siebzigsten Geburtstag. Herausgeben von D.S.Constantopoulos und Hans Wehberg). Hamburg, Girardet & Co., 8vo, 776 p.

The Nuremberg and Tokyo trials of war criminals were vitiated by too many anomalies to constitute a precedent for the establishment of an International Criminal Court.

It is understandable that the criminals had to be punished in some way or another, but it is regrettable that legal arguments were used in order to justify their condemnation.

In the present state of international society, to establish an International Criminal Court would be to place the cart before the horse. Such a court would be justifiable only in an international society that was more firmly organized.

YUEN-LI-LIANG. 'The Establishment of an International Criminal Jurisdiction'. *American Journal of International Law* 47(4), October 1953, p. 638-58.

The '1953 Committee on International Criminal Jurisdiction' was instructed by the United Nations General Assembly to review certain aspects of the Draft Statute for an International Criminal Court, drawn up in 1951 by an *ad hoc* committee of the assembly. The 1953 Committee made several amendments to this draft. It endeavoured, in particular, to make the court independent of the General Assembly; the Court would judge only persons committing crimes generally recognized by international law. The American proposal to confine the court's jurisdiction to crimes expressly recognized as such by international law was rejected.

REFUGEES

SIMPSON (J. H.). 'The Persistent Problem of the Refugee', *Fortnightly* (1043), November 1953, p. 291-98.

Since June 1921, when the League of Nations appointed Dr. Nansen as High Commissioner of the International Refugee Office, the refugee problem has continued to be regarded as an international problem; and the legal and political protection of refugees is considered by UN as a duty, just as it was by the League of Nations. A conference of 32 states, which met at Evian in 1938, established the Intergovernmental Committee on Refugees. During the last world war SHAEF, and after the armistice UNRRA, dealt with this problem. In 1947, 15 states established the International Refugee Organization, which ceased its activities on 31 January 1952, leaving it to the High Commissioner for Refugees to settle the destinies of 410,000 displaced persons. The Intergovernmental Committee for European Migration was then established to deal with European refugees. As a result of the last world war, the refugee problem had become extremely complex, and it became even more so with the appearance of the Palestinian and Korean refugees. As this problem is always created by political circumstances, the duty of resolving it should be one for the states chiefly responsible for those circumstances.

NON-SELF-GOVERNING TERRITORIES

ALLEGRINI (A.). 'Autonomia e independenza dei territori africani', *Affrica* 8(10), October 1953, p. 265-66.

The author analyses the answers given by the Belgian and United States Governments to the committee which was instructed, by the resolution adopted on 10 December 1952 by the United Nations General Assembly, to continue and carry out a more thorough study of the factors which must be taken into account in deciding whether a territory has or has not attained full self-government. In doing so, he throws light on the problems relating to: the duty of metropolitan territories to supply UN with information about their non-self-governing territories; the distinction between non-self-governing territories overseas and those directly adjacent to the metropolitan territory; the extent of administrative independence; and the possibilities which non-self-governing territories have of becoming independent. With regard to South-West Africa and, especially, Italian Somaliland, the author emphasizes the unfortunate consequences which may result from overestimating certain territories' capacity for democracy and independence.

SPECIALIZED AGENCIES

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

SATTI (M.). 'Gli investimenti della Banca Mondiale in Africa', *Affrica* 8(10), October 1953, p. 271-72.

Unlike the other underdeveloped regions, Africa owes its economic backwardness to the non-exploitation of its natural resources, due to lack of capital and skilled labour. However, investments of capital in this continent are facilitated owing to their extreme productivity. This is one of the factors which determined the International Bank's activities, in 1952-53, in British East and West Africa, the Belgian Congo, French Overseas Departments and Territories, Northern and Southern Rhodesia, and the Union of South Africa. However, it must be noted that the Bank's activities have encountered many obstacles, owing both to the political attitude of the metropolitan territories and to the immaturity of certain native populations.

INTERNATIONAL LABOUR ORGANISATION

C. W. J. 'The Protection of Freedom of Association by the International Labour Organisation', *British Yearbook of International Law, 1951*. London and New York, Oxford University Press, 1952, 4to, p. 348-59.

Although the efforts to establish a general convention on freedom of association had to be abandoned in 1927, several multilateral conventions have been signed, since the end of the second world war, with a view to ensuring such freedom. Special mention must be made of the Convention concerning Freedom of Association and Protection of the Right to Organize, the Convention concerning the Application of the Principles of the Right to Organize and to Bargain Collectively, and the Convention concerning the Right of Association and Settlement of Labour Disputes in Non-Metropolitan Territories (1947). Two special bodies have been set up within the framework of ILO in order to ascertain infringements of the right of association: the Governing Body Committee on Freedom of Association, which receives and examines complaints by governments or by employers' or workers' associations, and the Fact-Finding and Conciliation Commission, which is composed of nine members appointed by the Governing Body Committee and whose name indicates the extent of its powers.

PILLAI (P. P.). 'The ILO and Asia', *Indian Yearbook of International Affairs, 1952*. Published under the auspices of the Indian Study Group of International Affairs, University of Madras. Editor: Charles Henry Alexandrowiez. Madras, The Diocesan Press, 1952, 4to, p. 78-88.

Around 1920, ILO realized that one of its main tasks must be to fight against poverty in South Asia. After the war, several conferences were held in order to discuss the possibilities of increasing productivity and establishing a system of social security in that region. For ILO, which devotes a considerable amount of work to Asia, the establishment

of an Asian Advisory Committee proved indispensable. At present, 4 of the 16 members of the governing body and 3 of the 16 employers' and workers' delegates are from South Asia.

UNESCO

COSTANZO (G. A.). 'La collaborazione internazionale e l'Africa orientale', *Affrica* 8(11), November 1953, p. 307-8.
In this article, the author gives a detailed account of the work and results of the first seminar to be held in East Africa on the United Nations and the Specialized Agencies. This seminar was organized for Unesco, on the initiative of the World Federation of United Nations Associations, by the Italian and Somali Associations. Devoted partly to teaching about the United Nations and its Specialized Agencies and parly to problems connected with teaching about international understanding, the seminar took place at Mogadiscio from 8 to 16 October 1953 and was attended by representatives of the following countries and territories: Ethiopia; Kenya; Madagascar; Mozambique; Ruanda-Urundi; British, French and Italian Somaliland; Sudan; Tanganyika; Uganda; Zanzibar. The seminar devoted particular attention to educational work in Italian Somaliland, for today this territory is a vast international laboratory where the most modern methods evolved by the United Nations and its Specialized Agencies for the development of non-self-governing territories are tried out; Italian Somaliland is also the only territory where education is given in accordance with a general plan drawn up with Unesco's direct co-operation.

PARONETTO VALIER (J.). 'La cooperazione intellettuale sul piano internazionale', *Civitas* 4(11), November 1953, p. 7-12.
The author examines the advantages and limitations of Unesco as the present organization for intellectual co-operation, contrasting it with the International Institute of Intellectual Co-operation established by the League of Nations. He finds that the Organization has a bureaucratic structure which, formally speaking, is complete; but that it enjoys neither adequate resources, nor—which is more serious—the confidence or genuine goodwill of its Member States. A study of the reasons for this attitude seems to suggest that it would be better to replace Unesco by a federation of national and independent cultural organizations. On the other hand, even in its present form, Unesco is a symbol—a symbol for which, if it did not exist, the world would feel a need.

GENERAL AGREEMENT ON TARIFFS AND TRADE (GATT)

COPPOLA D'ANNA (F.). 'L'avvenire dell'accordo generale sulle tariffe doganali', *Mondo aperto* 7(6), December 1953, p. 242-49.
The eighth session of the contracting parties to the General Agreement on Tariffs and Trade clearly showed the need for a fundamental revision of the agreement's provisions. An analysis of the reasons which led to the preparation of this agreement, following on the failure of the Havana Charter, and a study of the agreement's application, show that the main difficulties confronting it are due to the fact that the contracting parties have, as such, had to assume a task for which the agreement was not originally intended. In any case, it is difficult to foreseee its future. It is obvious that the attitude of the United States will have a decisive influence on its fate. We can only hope that the intelligence and goodwill of all the competent authorities will enable means to be found of strengthening the agreement, by investing it with clear powers which will ensure that the general interest prevails over local and limited interests.

FOOD AND AGRICULTURE ORGANIZATION

INTRONA (S.). 'La F.A.O. in Africa', *Affrica* 9(1), January 1954, p. 15-16.
This article gives a detailed account of the work and results of the Seventh Conference of the Food and Agriculture Organization, held in Rome in November-December 1953.

Three new members were admitted to the organization: Iran, Libya and Yemen. After studying the present economic situation, the delegates agreed on the need to increase production in the poorest regions, to facilitate exchanges, to reduce the costs of agricultural production by increasing productivity, and to ensure that the sale of surplus produce should not have a disastrous effect on prices. (Unfortunately, it was not possible to give immediate practical effect to the conference's resolution concerning the creation of emergency stocks for countries overtaken by natural calamities.) A technical assistance programme, of extreme importance for the African continent, was also approved.

REGIONAL ORGANIZATION

ORGANIZATION OF AMERICAN STATES

GUERRANT (E. O.). 'A Challenge to the American Nations', *World Affairs Interpreter* 24(3), October 1953, p. 314-23.

Very valuable results have been obtained in past years in the development of friendly relations—political, economic and social—between the 21 nations of the Western Hemisphere. Inter-American organization, which had begun in 1890, was crowned by the Bogota Charter in 1948. But the charter produced another result as well: the principle of non-intervention, proclaimed at the Montevideo Conference in 1933, took firm root, and the democratic system has less and less chance of surviving in Latin America. The Larreta-Braden proposal for intervention against dictatorial régimes was rejected, but the 1947 Treaty of Rio was partly inspired by it in laying down the principle of mutual assistance against every act of aggression. The establishment of an Inter-American Court of Human Rights which would guarantee and protect the fundamental freedoms in Latin-American countries would be an excellent arm against dictatorships and Marxist theory alike.

BOOK REVIEWS

INTERNATIONAL ORGANIZATION

Foundations of World Organization: A political and Cultural Appraisal; Eleventh Symposium (edited by Lyman Bryson, Louis Finkelstein, Harol D. Lasswell, R. M. MacIver). New York and London, Harper Bros., 1952, 8vo, 498 p.

The Eleventh Conference on Science, Philosophy and Religion in Their Relation to the Democratic Way of Life was held at New York in September 1950. An analysis of the economic and social needs of the various regions of the world and a study of the trends in European policy reveal the existence of various factors likely to strengthen international co-operation. Numerous private organizations direct their efforts towards that end, but, although their role is by no means negligible, the work done on the intergovernmental plane is much more effective. The volume of multilateral conventions is markedly expanding, and meetings between the different powers are at the rate of 3,000 a year. As a result, procedure for representation is changing, and a combination of various parliamentary methods is producing a new way of thinking in common. The progress of UN, however slow, is assured; the confidence of its members is more important than the absence of such-and-such a state. The conference, before its close, examined the means of creating this confidence, which the League of Nations had never

enjoyed. A universal philosophy would constitute the most reliable basis for world organizations.

LEVI (Werner). *Fundamentals of World Organization.* Minneapolis, University of Minnesota Press, and London, Oxford University Press, 1950, 8vo, 233 p.

An organization is a framework for collective action; it integrates units within a whole and the result of what it does is, quantitatively and qualitatively, of far greater significance than the mere total of individual efforts. Only the 'organization' can ensure, simultaneously, specialization and co-operation. In the political sphere, international organization is a means of guiding and co-ordinating international relations. However, in order to play its part more effectively in the maintenance of peace, it should abandon what has hitherto been a purely passive attitude. In the economic field, it must necessarily preserve a balance between two conflicting tendencies—the economic unity of the world, and the economic autonomy of each nation. Organization is likewise essential in the social and cultural spheres and the present efforts of ILO and Unesco are directed towards that end. International organization can only be completely effective if it exists in all fields, in accordance with a concerted plan established by all nations. Only in these circumstances will it be possible to prevent the anti-democratic forces from exercising a decisive influence on the world's destiny.

SPECIALIZED AGENCIES

KUNG (E.). 'Das allgemeine Abkommen über Zölle und Handel—GATT' (The General Agreement on Tariffs and Trade—GATT) (*Veröffentlichungen des Schweizerischen Instituts für Aussenwirtschaftund Marktforschung an der Handelshochschule St. Gallen*, no. 13). Zürich and St. Gallen, Polygraphischer Verlag A.6, 1952, 8vo, 173 p., statistical appendix.

Supporters of free trade, who are the principal opponents of GATT, accuse it of condoning pernicious practices by explicitly recognizing the right of states to fix quotas for imports, on the pretext of maintaining their balance of payments. The agreement, they say, thus encourages states to plan for economic self-sufficiency and prevents them from adapting themselves to the conditions of the world market. Such accusations are unjustified, although it is true of course that GATT alone cannot put an end to the world trade crisis. It is a practical management which, as such, enables the maximum to be accomplished in present circumstances. A purely liberal convention would have led, not only to the exclusion of the communist states, but probably also to a cleavage in the Western world. Thanks to GATT it has been possible to secure the signatures of 'socialist' as well as of 'liberal' governments.

WOODBRIDGE (George). *UNRRA—The History of the United Nations Relief and Rehabilitation Administration.* New York, Columbia University Press, 1950, 8vo, 3 vols., 518 + 601 + 520 p.

The abolition of UNRRA does not prove that it was inefficient. Admittedly, it did not function perfectly in all respects; but it is extremely difficult to define exactly the task which UNRRA should have accomplished. The organization did not exercise any political control in the countries where it operated. The fact that it did not always obtain from member states accurate information concerning their needs resulted in a certain amount of wastage. Nevertheless, UNRRA has considerable accomplishments to its credit; it gave valuable assistance in the struggle against hunger, cold, epidemics, agricultural under-productivity and the transport crisis. If UNRRA was abolished, it was because the harmony essential to the functioning of such an organization had vanished from the world.

DE CHAMISSO (Xavier). *Une politique économique d'hémisphère. Essai sur la coopération économique et financière interaméricaine depuis 1939.* Paris, Éditions P. Fournié et Cie., 1935, 677 p. Preface by Maurice Byé. Documentary and bibliographical appendixes.

Some international organizations fulfil the same functions as specifically inter-American

bodies. Thus, there is a danger that the International Bank for Reconstruction and Development, on the one hand, and the Export-Import Bank, on the other, might overlap. The same is true of the Economic Commission for Latin America and the Inter-American Economic and Social Council. To avoid friction between the two Banks, the National Advisory Committee on Economic and Financial Problems was established at Bretton Woods. So far as the two second-named organizations are concerned, it was, for the purpose of co-ordinating their activities, stipulated in the Final Act of the Bogota Conference that three delegates of the Inter-American Economic and Social Council should meet United Nations representatives in 1948. The different international and inter-American organizations have so far worked together in perfect harmony.

INTERNATIONAL PUBLIC LAW

DE VISSCHER (Charles). *Théories et réalités en droit international public*. Paris, A. Pedone, 1953, 4to, 467 p.

It is impossible to imagine an international organization without some legal basis; nevertheless, a jurist hypnotized by abstract considerations may underestimate the political forces at work. Thus, the Covenant of the League of Nations was too idealistic. It was believed at that time that all peoples wanted peace and could impose their will upon their governments. The maintenance of national sovereignty did not therefore appear incompatible with collective security. It took only a few months to show that this was an illusion. After the second world war, the legal system introduced under the Charter of the United Nations made it obvious that there was already profound disagreement among the great powers. Meanwhile, the principal organ of the United Nations—the Security Council—proved impotent from the outset. Further, while the resolution of 3 November 1950 strengthened collective security, it falsified the political situation, for the preponderance of small states in the General Assembly in no way corresponds to their real power.

GUGGENHEIM (Paul). *Traité de droit international public avec mention de la pratique internationale et suisse*. T. I. Geneva, Librairie de l'Université, Georg & Co., 1953, 8vo, xxviii + 592 p.

The author does not deal with the doctrine of natural law and sociological theory. His purpose is to explain and define the contents of international regulations in force. He therefore makes only a very brief allusion to the principles underlying the law of nations. The work is focused on the idea that the law of nations is the application of a system of standard restraints—hence the importance of the problem of its relations with domestic law, in this case Swiss law. After a chapter on the sources of the law of nations, the subjects covered by international law are studied, one after the other, from the standpoint of customary law and treaty. An account is then given of the territorial coverage of the international legal system, and the author tries to define accurately the limits of national territorial sovereignty. In the last chapter, he deals with the organs of the law of nations, making brief reference to the status of government agents and 'inter-state federations'.

KELSEN (Hans). *Principles of International Law*. New York, Rinehard & Co., 1952, 8vo, xvii + 461 p.

In this work, the author has set out to provide an introduction to the study of international law, and a very large part of the book is taken up by an account of the nature and basic principles of the law of nations. The traditional distinction between the law of peace and the law of war is not made. War is considered from the standpoint of the penalties to which it is liable under international law. The main subject of the book is general international law. Special international law, based on treaties, is described to show the directions in which general international law may gradually develop. From this point of view, the United Nations Charter is of prime importance, for it is henceforth a part of general international law. Confining himself to the legal aspect, the

author gives a detailed account of the delicate problems raised by the different 'spheres of validity' of international law, and by its relations with domestic law. As for the sources of the law of nations, Mr. Kelsen includes in them jurisprudence as well as custom, treaties and general principles, and condemns the concept of *lacunae*.

HUMANITARIAN LAW

COURSIER (H.). *Études sur la Formation du Droit Humanitaire*. Geneva, 1952, 8vo, 106 p.
The author here describes the evolution of humanitarian law from the Roman era to the present day. Both the League of Nations and the United Nations have played an important part in developing this law, particularly in the following fields: repression of slavery, prohibition of pornographic publications, measures against the drug traffic, protection of racial minorities and of refugees. The adoption by the United Nations General Assembly, in 1948, of the Universal Declaration of Human Rights was a major event in the history of humanitarian law, for it is, as it were, the synthesis of everything which that law has so far contained.

TECHNICAL ASSISTANCE

MACK (Robert T., Jr.). *Raising the World's Standard of Living*, New York, The Citadel Press, 1953, 8vo, xvii + 285 p., $4.
Many plans for the advancement of 'underdeveloped countries' are being implemented in various parts of the world; some of them are prepared and applied by governments, others by international or regional organizations. The author describes the many problems involved in co-ordinating all these programmes. Three chapters of the book are devoted respectively to: (a) an account of attempts at co-ordination, and of their inadequacy; (b) co-ordination at the national level through the United Nations and its Technical Assistance Committee, and through the Specialized Agencies; and (c) regional organizations which, in America, the West Indies, the Pacific, South and South-East Asia, Africa, Western and Eastern Europe and the Middle East, co-ordinate economic policies and endeavour to ensure concordance of effort. In the last two chapters, the author deals with co-ordination problems, firstly from the standpoint of the United States, as an example of a country furnishing assistance, and secondly from that of Iran, a recipient country. He concludes with a series of specific recommendations. The very substantial bibliography (55 pages) includes a great many United Nations publications.

REFUGEES

SCHECHTMAN (J. B.). *The Arab Refugee Problem*. New York, Philosophical Library, 1952, 8vo, 137 p., appendixes, index.
At the end of the Palestinian war of 1947-48, 750,000 Arabs found themselves in exile, and an extremely serious refuges problem arose. All attempts to solve it have so far failed. The condition imposed by the Arabs that every refugee should be repatriated before any negotiations could be started was unacceptable to the Israeli Government; while the proposal—offering great economic possibilities—that the refugees be integrated in the Arab countries has always been rejected by the latter. The report of the Clapp mission of 1949 draws attention to the various plans for integration which could be carried into effect. The Arab governments, which became fairly conciliatory towards the middle of 1951, have since resumed their original uncompromising attitude and seem willing to allow the problem to persist indefinitely. In granting the Arabs large sums, without securing their co-operation in the resettlement of the refugees, the Western powers are merely making the situation more dangerous for the Middle East and for the world at large.

III. NEWS AND ANNOUNCEMENTS

WORLD POPULATION CONFERENCE

Rome, September 1954

With a view to clarifying certain important issues before the World Population Conference in September 1954, in Rome, two preparatory meetings were held at Unesco House, as follows:

From 1 to 4 February 1954, on the relation between fertility of different groups and development of intelligence in new generations.

Scientific Background: At the Seventh International Congress of Hygiene and Demography held in London in 1891, Francis Galton in an 'address to demographers', drew their attention to the differential fertility of the various social classes within a nation and to the variation of fertility between nations. During the sixty odd years which have passed since the 'address to demographers' of Francis Galton, numerous studies have been devoted to this problem. Among these studies, those which dealt with the relationship between differential fertility and the development of intelligence occupy an important place.

The United Nations Organization has always been particularly interested in demographic problems. Its Population Division was especially created to deal with these problems. This interest is particularly underlined by the World Conference on Population which is to take place in Rome from 31 August to 11 September 1954. One of the meetings of this conference will be devoted to 'Methods of Research on Relations between Intelligence and Fertility'. Unesco, having followed up all that has previously been done in the field, wished to take advantage of the opportunity provided by the World Conference on Population in order to contribute to the study of this problem.

Object of the Meeting. This meeting aimed at evaluating the existing studies made in different countries to clarify the problem of the influence which the varying fertility rates can exercise on the level of intelligence of a population.

Participation. The meeting was attented by: Professor J. A. Böök, University of Uppsala (Sweden); Professor Tage Kemp, Copenhagen (Denmark); Professor Livio Livi, University of Rome (Italy); Dr. James Maxwell, University of Edinburgh (U.K.); Dr. D. Wolfle, Commission on Human Resources and Advanced Training (U.S.); Dr. J. A. Fraser Roberts, London School of Hygiene and Tropical Medicine (U.K.); Dr. Jean Sutter and Dr. A. Girard, both from the Institut National d'Études Démographiques (France).

Observers from the following institutes also attended the meeting: Institut National d'Études Démographiques; World Federation for Mental Health; International Union of Scientific Psychology; Union Internationale des Organismes Familiaux; Conseil International des Sciences Sociales, and Conseil International de la Philosophie et des Sciences Humaines.

Mrs. Alva Myrdal, Dr. Klineberg, Dr. L. Diaz-Gonzalez, from Unesco Secretariat, also attended.

Suggestions for Further Research. A fairly comprehensive list of suggestions for further research needed in this field was drawn up. It was understood, however, that priorities would have to be established by groups and research agencies interested in the actual carrying out of research. It was stressed that international co-ordination of research, cross-national comparative studies and an approach on the basis of multi-disciplinary

teamwork must be developed to a greater extent than hitherto. The following general recommendations emerged from the discussions:

1. Studies here suggested are, as far as possible, to be undertaken in co-operation with competent international organizations: the World Health Organization, the International Bureau of Human Genetics, the International Social Science Council, the International Union for the Scientific Study of Population, the International Union of Scientific Psychology, the International Federation of Psycho-Technicians, the Biometrical Society, the International Union of Biological Science, etc.
2. Studies designed for research in one field, e.g., differential fertility, should preferably be designed to include also studies of intelligence, and vice versa.
3. Studies parallel to those hitherto undertaken, largely in Western countries, should be undertaken in other cultural regions.
4. Studies should, where possible, give information on occupational status, social mobility, intelligence, etc., in regard to mothers, and generally to the female population, in addition to present studies which concentrate largely on the father-child relationship.

The group also prepared a statement, which is being edited, on the relation between differential fertility and average intelligence as measured by tests.

In general, the group saw no proof of a decline in intelligence as a result of differential fertility.

Dr. James Maxwell, Edinburgh University, was entrusted with the preparation of an analysis and criticism of these recommendations; he will also develop ideas concerning the research to be undertaken, particularly in the field of psychology. Dr. J. Sutter, I.N.E.D., was entrusted with the preparation of a general report on the discussions of the working parties.

From 22 to 24 February, a second seminar was held on gaps in the knowledge about the relationship between population trends and economic and social conditions. The seminar was chaired by Professor D. V. Glass, London School of Economics and Political Science, and Dr. Notestein, United Nations, acted as general rapporteur. The participants were: Messrs. J. Doublet, Director, Social Security, France; Mertens de Wilmar, University of Louvain, Belgium; Sauvy, Director, Institut National d'Études Démographiques, France; Brinley Thomas, University College of Cardiff, U.K. Observers: Messrs. Groenman, University of Utrecht. The Netherlands, representing the International Council of Social Sciences and acting as liaison between the Conference and the Council; Lévi-Strauss, International Council of Social Sciences. Mrs. Myrdal, Dr. Klineberg and Dr. L. Diaz-Gonzalez, from Unesco Secretariat, also attended the meeting.

A number of recommendations with respect to further research emerged from the discussions, relating to data, problems of theory, to research topics for developed areas, to underdeveloped areas and to problems of the interrelations between highly-developed and underdeveloped countries.

SEMINAR ON SOCIAL AND PSYCHOLOGICAL RESEARCH

American University, Cairo, 1-7 February 1954

From 24 June to 5 July 1953, experts in cultural, psychological and social research from the Arab countries and the United States of America met at Souk-el-Gharb, near Beirut, to carry out comparative studies in these various fields.

The Group for Comparative Cultural Research was established as a result of that meeting. Its membership is as follows:

Egypt: Dr. Mohamed Khalifa Barakat, Ibrahim University; Dr. Mohamed O. Nagati, University of Cairo; Mr. George Gardner, American University at Cairo.

Iraq: Dr. Ibrahim Muhyi, Higher Teachers' College.

Lebanon: Dr. Habib Kurani, Department of Education, American University at Beirut; Dr. Pergrouhi Nagarian, College for Women, Beirut.

Syria: Mr. George Miller, Dean of the School for Boys, Aleppo.

U.S.A.: Dr. Bradford Hudson, Rice Institute.

At first, this group tried to work by correspondence, but it soon found this method unsatisfactory and realized that its members needed to meet periodically in order to decide upon the group's future work and procedure. The first results of their researches were published by Dr. Mohamed Khalifa Barakat in the American University's journal *Al-Tarbia Al-Hadissa* under the title of 'The Attitudes of Students towards Common Problems'.

PROGRAMME OF THE GROUP FOR COMPARATIVE CULTURAL RESEARCH

For 1953-54, the group planned an enquiry, to be carried out in student circles, on the attitude of students towards cultural changes. At the meeting in Beirut, in July 1953, an initial questionnaire was drawn up, through which an attempt was made to ascertain the views of Egyptian, Lebanese and American students in September and October. The results were submitted to the Cairo seminar.

In the light of those results, the seminar revised the questionnaire. In March or April 1954, it should have been received by some twenty thousand students, nationals of all the countries represented on the group.

The next seminar will be held at Beirut, in August 1954. Besides deciding upon next year's programme, it will examine the results of the enquiry and consider methods of extending it to secondary school pupils.

Several other projects are under consideration: for instance, translations of works on psychology and sociology; the circulation of those works in non-member states; the encouragement of students and research-workers to share in the groups' activities.

CAIRO SEMINAR IN 1954

Dr. Carl I. Hovland, Head of the Department of Psychology at Yale University, was invited by the group to take part in the work of this seminar, to guide it and make the necessary changes in the questionnaire.

The seminar was organized by the group, in co-operation with the Institute for Social Research of the American University, whose director is Dr. Hanna Rizk. Its purpose was to study the problems raised by psychological and sociological research in the Middle East. The seminar also discussed modern methods of evaluating psychological attitudes.

Public lectures were given in the Oriental Hall of the American University, to an audience of more than a hundred experts and other persons interested in these questions, mostly Egyptians and Americans. The lectures were as follows:

1 February: Plan for Psychological Research, by Dr. Bradford B. Hudson; The Need for Social Research in Eastern Countries, by Dr. Habib Kurani; Examination of the Attitudes of Students by the Group for Comparative Cultural Research, by Dr. Mohamed K. Barakat.

2 February: Modern Trends in the Evaluation of Attitudes, by Dr. Carl I. Hovland.

3 February: Recent Results of the Evaluation of Psychological Attitudes, by Dr. Carl I. Hovland.

Study sessions reserved for experts in social and psychological research, i.e. some twenty members, were also organized. The reports presented at these meetings, chiefly

by Egyptians, were followed by interesting discussions. They are: 'Psychological Attitudes in the Relations between the Sexes', 'Study of the Factors encouraging Emigration from Rural Areas to the Factories of Alexandria', 'Social Research in Some Egyptian Villages, using the Method of Visits and Personal Contacts', 'Study of the Superstitions that are Common in Different Classes and Milieux'.

The success of the seminar was due not only to the importance and interest of the lectures and reports, but also to the encouragement given by the public, experts in comparative studies, teachers at Egyptian universities and at the American University and, in particular, the Egyptian Minister of Education, himself a member of the Group for Comparative Cultural Research.

SOCIAL AND ECONOMIC PROBLEMS OF THE CARIBBEAN

Social and Economic Studies is the journal published by the Institute of Social and Economic Research of the University College of the West Indies, in which appear the results of research undertaken by members of the institute. Projects have been undertaken in different territories throughout the Caribbean and should therefore be of wide interest. Seven numbers of the journal have appeared during the present year; vol. 1, nos 1, 2, 3, and 4, and vol. 2, no. 4 will appear in the new year.

Copies of these publications can be procured from: The Editor, *Social and Economic Studies*, Institute of Social and Economic Research, University College of the West Indies, Jamaica, B.W.I.

Subscription rates, per volume of four numbers, £1.10.0; U.S.$4.25; W.I.$7.20. Single copies 9/- each.

Following is a list of the papers published.

Vol. 1, No. 1

'Employment, Economic Development and Incentive Financing in Jamaica', by H. D. Huggins.
'Labour Productivity and Capital-Labour Ratios in Jamaican Manufacturing Industry: Their Relation to the Problem of Selective Industrialization', by G. E. Cumper.
'Aspects of Family Organization in a Coastal Negro Community in British Guiana: A Preliminary Report', by R. T. Smith.
'Urban Research in the British Caribbean: A Prospectus', by L. Broom.

Vol. 1, No. 2

'Two Studies in Jamaican Productivity', by G. E. Cumper.
'Seasonal Variation and Employment in Jamaica', by H. D. Huggins.

Vol. 1, No. 3

'The National Income and the National Accounts of Barbados, Antigua, St. Christopher, Nevis and Anguilla, Dominica, St. Lucia, St. Vincent and Grenada', by Nora M. Siffleet.
'Incentives to Private Investment as an Aspect of Development Programmes', by A. F. Earle.

Vol. 1, No. 4

'Some Preliminary Results of a Survey of Income and Consumption Patterns in a Sample of Households in Barbados', by K. H. Straw.
'Currency and Banking in Jamaica', by 'Analyst'.
'Some Aspects of Social Structure in the British Caribbean about 1820', by M. G. Smith.
'Land tenure and the family in four selected communities in Jamaica', by Edith Clarke.

Vol. 2, No. 1

'Industrial Training Methods and Techniques', by Ella Campbell.
'The Burning Fountain whence it Came' (A study of the System of Beliefs of the Carib-speaking Akawaio of British Guiana), by Audrey J. Butt.

Vol. 2, Nos. 2 and 3

'Social Stratification in Trinidad: A Preliminary Analysis', by Lloyd Braithwaite.
'The Motherhood Tables of the 1946 Census of the West Indies', by G. W. Roberts.

NEWS FROM LATIN AMERICA[1]

NEW 'REVISTA COLOMBIANA DE ANTROPOLOGIA'

The Colombian Institute of Anthropology has begun publication of a new *Revista Colombiana de Antropologia* (Second Period), the first number of which contains matter of extraordinary interest of which short notices are given in our *Registro bibliografico*. The review replaces the former *Revista del Instituto Etnologico Nacional* and the *Boletin de Arqueologia*. All correspondence should be addressed to the Instituto Colombiano de Antropologia, Apartado Nacional 407, Bogota, Colombia.

CO-ORDINATING CENTRES OF THE INSTITUTO INDIGENISTA OF MEXICO

The National Institute for Indian Studies of Mexico is giving its best attention to the establishment and building up of the regional co-ordinating centres, which have been given the task of solving the most pressing problems of the Indian population. At the date of writing the centres for the Tzeltaltzotzil and Tarahumara regions (in Chiapas and Chihuahua respectively) are in active operation, and it is hoped to open a further centre in the Mixtec region very shortly. The centres combine research and applied anthropology.

RESEARCH BY THE INSTITUTO INDIGENISTA OF GUATEMALA

In 1952, staff of the Guatemalan Institute for Indian Studies carried out field research in the Parramos Indian community and ethnographical surveys in Alta Verapaz. Concurrently work was continued on the preparation of material for the new Archives of Cultural Materials which has been started on the lines of the Human Relations

[1] Reprinted from *Ciencias Sociales*, a periodical published by the Department of Social Sciences of the Pan American Union.

Area Files of New Haven, United States of America. As announced in *Ciencias Sociales*, the institute is co-operating with the UPA Social Science Bureau on the Spanish version of the *Guide* to these archives.

ACTIVITIES OF THE INSTITUTO COLOMBIANO DE ANTROPOLOGIA

Between November 1952 and June 1953 the Colombian Institute of Anthropology sent investigators to the following areas: Sierra Nevada de Santa Marta (Gerardo Reichel-Dolmatoff); the Guajira peninsula (Jean Caudmont); the Vaupes (Marcos Fulop); Tierradentro (Segundo Bernal Villa, Antonio Andrade Crispino, Horst Nachtigall, Milciades Chaves and Nestor Uscategui); San Agustin (Antonio Andrade Crispino, Milciades Chaves and Horst Nachtigall).

BOLIVIA: COMPETITION FOR A WORK ON SOCIOLOGY

The Promotion Committe of the Sociedad Boliviana de Sociologia has opened a competition for a textbook on sociology to comprise the following sections: Sociological theory; History of sociological doctrines (with a special chapter on Bolivia); Sociological methods; Elements of specialized branches of sociology (economic, political, legal etc.); Bolivian sociology. The minimum length for entries is 400 pages and the final date for submission is 22 June 1954.

SCHOLARSHIPS FOR WOMEN SOCIAL WELFARE WORKERS TENABLE IN CHILE

The Escuela de Servicio Social of Santiago de Chile awards three scholarships a year to enable foreign women students to study in Chile and to broaden their experience and contacts. Candidates must have completed pre-university studies. Application may be made to the Chilean diplomatic representative in any country. Scholarships are for two years with the option, in suitable cases, of extension until training is completed.

A further studentship is awarded annually by the Chilean Central Charities Board (Junta Central de Beneficencia) to qualified women social welfare workers from abroad, to acquaint them with Chilean experience in welfare work. Applications may be addressed as in the previous case.

SOCIEDAD PERUANA DE FOLKLORE

A Peruvian Folklore Society has recently been established with the following officers: Efrain Morote Best (President); Oscar Nunez del Prado and Humberto Vidal Unda (Vice-Presidents); Edmundo Delgado Vivanco and Emilio Mendizabal Losack (Secretaries); Lizardo Perez Aranibar (Treasurer); and Josafat Roel Pineda (Director of the Museum, Archives and Library). The society has begun publication of an information bulletin (Editorial office: Apartado 361, Cuzco, Peru).

ASOCIACION URUGUAYA DE CIENCIAS SOCIALES

A Uruguayan Social Science Association has been established in Montevideo. The members of the Executive Committee are the following: I. Ganon (Chairman), A. M. Grompone, C. Fabini, L. J. Picardo and E. Rebollo (Secretary).

BRAZIL: NEW ANTHROPOLOGICAL REVIEW

Publication has been begun of a *Revista de Antropologia* under the editorship of Professor Egon Schaden (Faculty of Philosophy, Science and Letters, University of São Paulo,

Brazil). The Editorial Board includes Plinio Ayrosa, Herbert Baldus, Otavio da Costa Eduardo, Florestan Fernandez. Antonio Rubbo Muller and Gioconda Mussolini. The first number (issued in June 1953) includes interesting papers of which abstracts will be given in *Ciencias Sociales* at an early date. All correspondence should be addressed to: Egon Schaden, Caixa Postal 5459, São Paulo, Brazil.

FIRST BRAZILIAN ANTHROPOLOGICAL MEETING

At the instance of the Museu Nacional the first Brazilian anthropological meeting took place in Rio de Janeiro between 8 and 14 November 1953. The principal business was the discussion of all aspects of anthropological activities in teaching and research and the planning of future activities. The Secretary of the Organizing Committee is Professor Luiz de Castro Faria, Museu Nacional, Quinta de Boa Vista, Rio de Janeiro, Brazil.

INTERNATIONAL INSTITUTE OF DIFFERING CIVILIZATIONS (INCIDI)

JUBILEE PRIZE-CONTEST

I. The means of ensuring friendly understanding between peoples with differing civilizations and effectual co-operation with a view to the welfare of each.
II. Normalization of relations between individual personalities which are asserting themselves and social organizations which are developing.
III. Difficulties and trials of the woman in her adaptation to social life in course of modernization.

On the occasion of its sixtieth anniversary, the institute is offering prizes to the authors of the best articles submitted to it on one of the above subjects, considered from the point of view of the purpose of the institute: 'the scientific study of problems arising out of contacts between differing civilizations'.

RULES

1. In order to increase the interest of the debate and promote understanding of the subject, the competition is open only to authors whose civilization is not the Western civilization.
2. Articles shall be strictly original, i.e. personal, unpublished work. Evidence of the author's identity and of the original nature of the article shall be provided by the counter-signature of two named university professors or other persons of equivalent repute. Such signatories assume no responsibility for the value or content of the article.
3. Articles shall be written in English or in French.
4. Articles shall not exceed an approximate length of 5,000 words, including notes, bibliography and appendixes but excluding notes on the author, which should be attached as a separate document.
5. The awards offered are a first prize of $200 and fours econd prizes of $50. The institute may decide not to award any or all of these prizes should it form the opinion that a suitable standard has not been reached. The decisions of the institute shall be final.
6. All articles accepted, whether or not awarded a prize, may be published in the institute's review *Civilisations*. Manuscripts will not be returned.

7. Four typewritten copies will be required (three to be sent separately by ordinary mail). Entries must reach the General Secretariat, International Institute of Differing Civilizations, 11 boulevard de Waterloo, Brussels, Belgium, by 31 October 1954.

For the Committee:
Dr. P. J. Idenburg, Secretary-General of the Afrika Institut, Leiden (President); A. Moeller de Laddersous, Professor at the Institut Universitaire des Territoires d'Outre-Mer, Antwerp, and R. Supome, President of the University of Indonesia (Vice-Presidents); P. Wigny (Secretary-General); Professor V. Gelders (Director).

BOOKS RECEIVED

ALLPORT, Gordon W. *The Nature of Prejudice*, Cambridge, Mass., Addison-Wesley Publishing Co. Inc., 1954, xviii + 537 p.

American Geography, Inventory and Prospect, Preston E. James and Clarence F. Jones, editors, John K. Wright, consulting editor, maps by John C. Sherman, published for the Association of American Geographers by Syracuse University Press, 1954, xii + 590 p.

Aspects de la société française, by various contributors, with an introduction by André Siegfried, Paris, Librairie Générale de Droit et de Jurisprudence, 1954, 338 p.

BERTRAND, André. *Les techniques du travail gouvernemental dans l'état moderne*, a study on political and administrative sciences and on comparative constitutional law undertaken by the Institut International des Sciences Administratives on behalf of the United Nations. Brussels, Institut International des Sciences Administratives, 1954, 89 p.

BOGARDUS, Emory S. *Sociology*, 4th ed., New York, The Macmillan Company, 1954, xv + 616 p.

BRAY, Douglas W. *Issues on the Study of Talent*, Graduate School of Business, Colombia University, Human Resources Studies, with a foreword by Eli Ginzberg, New York, King's Crown Press, Columbia University, 1954, xi + 65 p.

CARSOW, Michel. *L'économie européenne à l'épreuve*, Paris, Éditions Rousseau, 1954, 46 p.

Centre Européen d'Études de Population, *Études européennes de population, main-d'œuvre, emploi-migrations, situations et perspectives*, published by l'Institut National d'Études Démographiques, Paris, 1954, 438 p.

CHENG BIN. *General Principles of Law as applied by International Courts and Tribunals* with a foreword by Georg Schwarzenberger, published under the auspices of the London Institute of World Affairs, London, Stevens & Sons Ltd., 1953, li + 490 p.

DITTMER, Kunz, *Allgemeine Völkerkunde*. Brunswick, Friedr. Vieweg & Sohn, 1954, viii + 314 p.

DONALD, Marjorie N. *A Survey of Public Opinion in relation to the University*, Department of Psychology, Victoria University College, Wellington, New Zealand, 1953, 93 p. + appendixes.

DUPLESSIS, Gérard. *Les mariages en France*, with a foreword by Paul Gemahling (*Cahiers de la Fondation Nationale des Sciences Politiques*, no. 53), Paris, Librairie Armand Colin, 1954, xi + 196 p.

ESCH, E., KIRSCHEN, E. S., POEL MANS, J. *Le logement. Contribution à l'étude de la comptabilité nationale de la Belgique*, Groupe d'Études de la Comptabilité Nationale, Published by la Librairie Encyclopédique, Brussels, 1954, 32 p.

FELICE, Pierre de. *Le pool vert*. Paris, Organisation Française du Mouvement Européen, 1954, 56 p.

For a Science of Social Man. John Fillin, editor, New York, The Macmillan Company, 1954, vi + 289 p.

JOHANNESSON Jürg, *Beruf und Privatleben im Industriebetrieb*, Westkulturverlag. Meisenheim am Glass, Anton Haim, 1953, 167 p.

KALLAY, Nicholas. *Hungarian Premier, A Personal Account of a Nation's Struggle in the Second World War*, with a foreword by C. A. Macartney. New York, Columbia University Press, 1954, xxix + 518 p.

MAMMUCARI, Giovanni. *Note sull'amministrazione fiduciaria internazionale*. Rome, Tipografia dell'Orso, 1954, 69 p.

MOSHER, Frederick C. *Program Budgeting: Theory and Practice with Particular Reference to the U.S. Department of the Army*, with forewords by W. O. Reeder and Paul H. Appleby. New York, Public Administration Service, 1954, xiii + 258 p.

PELISSIER, Paul. *Les paysans sérères; essai sur la formation d'un terroir du Sénégal* (*Studies of the Department of Geography*, no. 1), Institut des Hautes Études de Dakar, 1953, 27 p.

Résultats statistiques du recensement général de la population effectué le 10 mars 1948, vol. III, *Population active*. Part I, 'Ensemble de la population active', Paris, Imprimerie Nationale des Presses Universitaires de France, 1952, 543 p.

Résultats statistiques du recensement général de la population effectué le 10 mars 1946, vol. IV, *Familles*. Paris, Imprimerie Nationale des Presses Universitaires de France, 1953, 157 p.

ROCHE, John P., and STEDMAN, Murray S., Jr. *The Dynamics of Democratic Government*, New York, McGraw-Hill, 1954, 445 p.

VERSLUYS, J. D. N. *Village Development Schemes in Ceylon and India*, South Asia Science Co-operation Office. New Delhi, 1954, 72 p. and appendixes.

WHELPTON, Pascal K. *Cohort Fertility, Native White Women in the United States*. Princeton, New Jersey, Princeton University Press, 1954, xxv + 492 p.

WRIGHT, Quincy. *Problems of Stability and Progress in International Relations*, with a foreword by Covey T. Oliver. Berkeley and Los Angeles, University of California Press, 1954, xiv + 378 p.

Note. All books and periodicals addressed to the Editor of the *International Social Science Bulletin* are automatically added to Unesco library.